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Adult Learning Communities

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From the Guest Editor

George E. Hein

This issue of the *Journal of Museum Education* is devoted to papers from disciplines related to museum education but outside the field itself. I have deliberately asked professionals not associated with museums or museum education to contribute on a range of topics.

As museum education emerges as a respected professional field, it must look outward and incorporate information, ideas, and concepts from other disciplines. The need to connect museum education with other types of education (as well as to emphasize the differences between museums and other places of learning!) is clear. A broad range of disciplines can enlighten us about how to approach learners, what factors influence learning, how to distinguish different types of learners and different classes of visitors, how the environment influences learners, and how the social milieu of our museums and our society affects teaching and learning.

Museum education is almost as old as this century. It became a serious profession after World War II, but its present level of recognition is quite recent. When I first began to work with museum educators 15 years ago, I noticed that many had been hired fresh out of college, often

with little background in education. Generally not on the regular museum payroll, they were likely to be "soft-money" employees, funded by special federal, state, or foundation grants to provide services to particular audiences, such as the disadvantaged, the elderly, and those from the inner city.

To a remarkable degree these same employees are still working in museums. They are older now and considerably better educated. They have a wealth of experience and advanced professional training, a significant part of it in education and related professions as well as in the subject areas of their museums. They are usually on the permanent education staff and sometimes in significant management positions. Some are even involved with exhibit development and museum policy.

This shift reflects the maturing of our profession and the development of museum educators as a powerful voice within the museum community. This increasing integration is also reflected by the emphasis on education in documents such as the American Association of Museums' *Museums for a New Century*, the increased concern with the accreditation of museum studies programs as well as their proliferation, and the growth of museum education committees nationally and internationally. ICOM/CECA, for example, has almost 900 members and is the largest standing committee in ICOM; EdCom is the second largest committee in AAM. Even recent public debates concerning the value of museum educators make us aware of their rising status; a few decades ago, the debates could not have happened!

As museum education develops and matures, professionals have more information, training, and experience. Doctoral programs in the United States and abroad are beginning to enroll students who specifically declare museum education as their primary interest. A growing body of literature discusses issues in museum education, and museum educators are becoming more interested in broader areas related to their work. Simultaneously, social science disciplines that can inform this work have evolved, with an amazing expansion of academic research and

practice in human service fields. Subdisciplines barely existing in 1970 now have significant research literatures that reflect on functions and situations that confront museum educators.

Experts in a host of human service areas have acquired years of experience with many of the special audiences museum educators now serve or wish to serve in the future. Exactly what the whole range of relevant fields might be is impossible for any single person or group to determine. We could argue that everything is interconnected, that all fields are relevant to education, or we could attempt to develop a canonical list of "relevant" disciplines. Neither of these approaches seems optimally useful. We need to explore other areas of learning, other knowledge bases and disciplinary domains, and to incorporate what is applicable into our thinking about and practice of museum education. Broadening our awareness of the intellectual roots of our enterprise is an ongoing effort.

One field that museum educators need to understand concerns how people learn. In this issue of the journal Eleanor Duckworth argues for the centrality of the learner's own actions as a basis for learning and expands on this central component of Piagetian theory to discuss its implications for museum education. In the second article a group of Lesley College faculty members describe the power of "learning communities" in assisting adults to learn and the special characteristics of adult learners from a developmental perspective. A new specialization within the social sciences is environmental psychology—the study of the impact of "place" on the individual or group. In the third article, Anita Olds discusses psychological and physiological harmony in the museum setting. In the fourth contribution, Joseph Suina discusses cultural diversity from the perspective of a teacher educator responsible for multicultural education. Finally, Alice Seletsky, a teacher at a public alternative school in Manhattan, provides an account of how rich museum resources are used and integrated with school curriculum to satisfy the learning needs of inquiring students.

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Museum Visitors and the Development of Understanding

Eleanor Duckworth

In setting out to say what I think is important for museum educators to have in mind about developmental theory, I want to use Jean Piaget's work on the development of understanding in infancy, where the roots of children's thinking lie—and our own as well. I hope this perspective will offer some useful insights into ways all of us can help learners approach new material.

The single most important aspect of Piaget's thought for museum educators is his emphasis on the centrality of actions to ways of knowing. Piaget traces all human knowledge to its roots in the activities of infants.¹ Transforming the knowledge gained through actions in infancy into conceptual, representational knowledge is a lifelong human endeavor. Childhood is an interesting middle ground. For the most part, we believe we understand children's experiences, and yet sometimes their perspectives can stun us. When this happens, it is usually because of the centrality of action as a means of understanding.

It is worthwhile to sketch out what Piaget means when he speaks of an infant's actions as the root of knowledge by looking at his presentation of the development of the notion of permanent objects during the first year of life. The general finding of his classic study *Construction of Reality in the Child* (1950) is well known. In their first few months, infants act as if an object has no continuing existence of its own. If an interesting plaything the infant is reaching for is covered with a cloth, he or she stops reaching for it. Or, even more significant, the infant will go back to look for it in a place he or she has found it before. To the infant the object does not seem to have an integrity, a location in space.

What is less well known is Piaget's interpretation of the infant's experience before he or she develops the notion of object permanence. To begin with, what we would call an object is for the child indissociable from his or her own action. Here are Piaget's words, describing a six- to nine-

month-old who anticipates the reappearance of a moving object that continues in the same direction it was going when it disappeared:

The movement of the object is, for his awareness, one and the same as the kinesthetic or sensorimotor impressions that accompany his own eye, head, or body movements. When the mobile disappears from sight, the only possible ways to find it are to keep on doing what he was already doing and to go back to how he was before. Nothing requires the infant to consider that the mobile itself has moved, independent of his own movements. All the infant has to go on is an immediate linking between his kinesthetic impressions and the reappearance of the mobile in his visual field—in short, a linking between a certain effort and a certain result.²

In the following example, we can also see the infant's focus on his or her own action in an attempt to understand the world:

Laurent . . . [at seven months, five days] loses a cigarette box that he had just been swinging around. He lets go of it involuntarily outside his visual field. He then immediately brings his hand back in front of his eyes and looks at it a long time, with an expression of surprise, disappointment. . . . He starts again to swing his hand around, even though there's nothing in it, after which he looks at it again. . . . It is impossible not to interpret this conduct as an attempt to make the object come back.³

Reaching for an object does not mean the infant understands the object is there; it reflects the infant's effort to continue the object's presence. It is the reaching for it or the looking at it that "generate" it, as it were.

Another fine example from the description of Laurent is the following: Providing he can see even the tiniest part of the nipple of his bottle he turns the bottle around to get the nipple into his mouth. If the nipple is completely hidden, though, he does not turn the bottle. Nonetheless he seeks to "generate" the nipple by sucking on the available end! Laurent considers the nipple as being "at the disposition" of his sucking action. "It is not the object that constitutes the permanent element . . . but the act itself."⁴ The continuing existence of the nipple depends on the continuation of the child's own actions.

The primacy of the child's own actions can be seen in extraordinary ways. Israeli educator Malka Haas shows a two-year-old's drawing of a cake. It does not look like a cake. It is a thick set of swirls, which Haas explains as the traces of the gesture of mixing the batter. It is the gesture that is represented in the drawing.⁵

In another example a six-year-old has predicted that a rubber ball will sink. But it floats. So he pushes it down to the bottom of the pan and holds it there for a while before letting go to see whether this time it will stay there on its own. Here again it is a sense of the efficacy of his own actions, rather than the object's properties, that guide him.

This concentration on actions leads to a focus on success rather than on understanding, on attaining goals rather than attending to relationships. A four-year-old niece of mine watched her 10-year-old cousin climb a doorframe in the oppositional manner of a mountaineer climbing a rock chimney. With a hand and a foot pressing against each side of the frame, the 10-year-old lifted her own weight and reached the top of the doorway. The four-year-old set out to do the same, but she could not reach the sides of the doorframe well enough to press on them with her hands and feet. So, knowing that when you cannot

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reach something you get someone to lift you, she asked her father to lift her so she could reach the sides of the doorframe. She was disappointed and incomprehending that she still could not reach the edges. Her puzzlement is a commentary on her understanding not of what her cousin had done but of what goes on when someone lifts you up to reach better. She understood the action to have an almost magically efficacious result and had no grasp of the relationships involved. Lifting up helps you reach; the relationship between the direction you are lifted and the direction you want to reach is not noticed.

This example records an observation of someone else's action. In the child's own actions, too, there are a focus on outcome and a lack of understanding of what he or she is doing. One of Piaget's late books is called in English *The Grasp of Consciousness*, a bad translation of the French title, *La prise de conscience* (1974), which means "becoming aware." In this context Piaget is referring to becoming aware of the relationships between one's own actions and the world in which they are carried out. The book consists of studies of situations in which children are able to coordinate their own actions in order to accomplish a goal but do not know what they have done or what the objects have done in response. For example, they can perfectly well roll a ball so as to give another ball a slanting blow and direct it off to one side, thus avoiding hitting a little model person. But when asked how she did it, one six-year-old, for example, believed she had simply rolled the ball straight ahead. "The ball turned instead of going straight ahead," she said. "It pushed straight ahead and then when it got there it turned." Her drawing confirmed her perception: the trajectory of the first ball went straight to the second, and the second ball headed straight for the model person before turning away at the last moment. A 10-year-old, by contrast, while succeeding no better with the actual actions, knew what he had done: "Instead of aiming there [the middle of the second ball], I aim at the side."⁶

There is another way in which the child's focus on actions and practical success takes priority over understanding relationships. Bärbel Inhelder and Piaget carried out an experiment in which rods of different material, length, thickness, and cross-sectional shape were provided along with different weights that could be placed on the ends of the rods.⁷ The rods could be secured at the other end, thus extending horizontally. The object was to determine which factors—material, length, thickness, shape of rod, or amount of weight on end—made the rods bend more. Ideally, of course, in order to determine whether a square cross-section bends more or less than a round cross-section, we would compare two rods of identical length, thickness, and material and use the same amount of weight on each, varying only the shape of the cross-section. Young children tend to think, however, that the more they act and change things, then the more they'll learn. So to see which factor might be responsible for a short thick round rod that is not bending a great deal, a nine-year-old would replace it, say, with a long thin rod. It is true that the more different actions you take simultaneously the more you are likely to effect some change; it is not true that the more different actions you take simultaneously the better you will understand. One last aspect of Piaget's thought is important to mention. It is this rooting of understanding in actions that leads each child to have his or her own interpretation of a given situation. The history of his or her own actions deter-

mines the framework through which a child understands any new experience. This connection is exemplified in the following (true!) story.

The mother of a four-year-old friend of mine reported a visit to a large commercial egg farm, producing hundreds of thousands of eggs daily. The child was shown the hens being fed and watered, the hens laying, the eggs being washed, sorted, conveyed outside, packed, stacked for pickup, all of course with careful explanation by both her parents and the workers. Later in the day she told her uncle about this visit. She had been duly impressed by the magnitude of the operation—the number of hens and the number of eggs. And then she proceeded to explain how the eggs were the hens' food. Astonished, her mother asked where the eggs had come from. From the store, was the answer. There was no trace of the careful, thoroughly documented explanations that the child had spent the morning hearing and seeing.

There are two different ways I think an awareness of the centrality of actions in determining children's understanding can be of interest to museum educators.

One of them relates most closely to this last consequence. In reading an issue of this journal, I noticed a tension between the view that "people come first" and the importance of "the integrity of the object."⁸ Thinking in terms of people's own ways of understanding seems to me to allow for a resolution of the tension between these perspectives. Objects are known to people only as taken in by them through the frameworks that they have developed and bring with them. The idea behind the development of a museum exhibit, then, would be to make a place for people's own ways of understanding and to work with them.

Objects are known to people only as taken in by them through the frameworks that they have developed and bring with them. The idea behind the development of a museum exhibit, then, would be to make a place for people's own ways of understanding and to work with them.

I had a conversation about this idea with an exhibit developer in a museum that set out to emphasize both science and the visual arts. We were agreeing that the museum needed to seek out phenomena that were multifaceted, which people could explore from the frameworks of understanding that they brought with them and without being expected to apprehend the phenomena in one given way. A few minutes later he referred to the phenomenon involved in an exhibit we had been discussing as "resonance"—an idea important to physicists. I did not understand at first, and then I did a double take. "Resonance" was not what I considered a phenomenon. For me, the phenomenon of that exhibit was "a great big heavy pendulum"! That is how I responded first and foremost.

I appreciate that it is difficult for a museum to present exhibits without wanting people to get a specific under-

standing from them. I also appreciate that part of this difficulty is that visitors would often feel cheated if they were not told what to understand from an exhibit. But the risk is that people's own ways of thinking about the material are not engaged—and therefore not affected.

There are fine precedents of exhibits that do not seek to convey a specific understanding. The most striking in my experience are historical reconstructions where, among other things, actors re-create persons from the period. No lesson is imposed. Visitors experience the phenomena.

Students of mine have started trying to work in open-ended ways in art museums. They ask visitors to say what they see in a painting. The longer the visitors stand and look at a single painting, telling each other what they see, the more ways each person has to see it. One's own view is both legitimized and enhanced.

In other kinds of museums I can imagine starting by acknowledging some idea: Many people who see this think of it this way. Why do you suppose they do? Can you see anything that doesn't work about that way of thinking of it? What else might people think? Why might they think that? And is there anything that doesn't work about that way? The way I think about it is this. What do you suppose some of my reasons are? What doesn't work about this way of thinking about it?

The second reason I wanted to focus on the centrality of actions in children's understanding is that they play an important part in our adult understanding as well. At first the focus is easier to see in children, but it is also possible to find it in ourselves. When I am trying to understand something that has gone wrong, for example, I often find myself tempted, just like the children with the rods, to change every variable at once in order to make a difference. No less frequently I find myself, like the child with the ball that did not sink, trying to impress my wishes through my own actions on some totally resistant object. David Hawkins has shown how few adults realize the relationships involved when they easily arrange themselves to look at someone else in a mirror⁹—just like the child rolling the ball or the child asking to be lifted in order to reach to the sides of the doorframe. I could go on and on.

As educators trying to anticipate or tune in to students' and museum visitors' ways of understanding, I find nothing more precious to keep than a connection with our own ways of seeing, our own confusions, our own conflicts between trying to succeed and trying to understand, our own surprises, our own feelings when we find out new things and have to let go of old ones. Capturing the moments when we can recognize the action-grounded roots of our own understanding is one of the most valuable exercises in moving outside our own later points of view and making connections with those who come to learn in our classes and our museums.

Notes

1. Jean Piaget, *Play, Dreams, and Imitation in Childhood*, trans. Caleb Gattegno and Frances Mary Hodgson (New York: Norton, 1962); Piaget, *The Origins of Intelligence in Children*, trans. Margaret Cook (New York: International Universities Press, 1966); Piaget, *The Construction of Reality in the Child*, trans. Margaret Cook (New York: Ballantine, 1986); Eleanor Duckworth, "Structures, Continuity and Other People's Minds," in Duckworth, *"The Having of Wonderful Ideas" and Other Essays on Teaching and Learning* (New York: Teachers College Press, 1987), pp. 98–112.
2. Jean Piaget, *La construction du réel* (Neuchatel: Delachaux et Niestlé, 1950), p. 23, my translation. See also the English edition cited in n. 1, pp. 19–20.
3. *Ibid.*, p. 25; English ed., p. 22.
4. *Ibid.*, p. 29; English ed., p. 27.
5. Malka Haas, personal communication, 1978.
6. Jean Piaget, *La prise de conscience* (Paris: Presses Universitaires de France, 1974), pp. 118, 124, my translation. See also the English edition, *The Grasp of Consciousness*, trans. Susan Wedgwood (Cambridge, Mass.: Harvard University Press, 1974), pp. 155, 162.
7. Bärbel Inhelder and Jean Piaget, *The Growth of Logical Thinking*, trans. Anne Parsons and Stanley Milgram (New York: Basic Books, 1958), pp. 46–66.
8. Sharon Blume, comments on Diane Brigham, "Preparation for Empowerment," *Journal of Museum Education* 13, no. 3 (1988): 11.
9. David Hawkins, "Critical Barriers to Science Learning," *Outlook* 29 (1978): 3–23.

Passionate and Purposeful: Adult Learning Communities

Luke Baldwin, Sharlene Cochrane, Constance Counts, Joan Dolamore, Martha McKenna, and Barbara Vacarr

A key concept in educating adults is the idea of a "learning community." Adults often learn most effectively in groups that they join by choice, groups characterized by discussion, interaction, and collaboration and in which participants both receive and provide academic and social support. Such groups value the individual; at the same time they require that the learner communicate and reflect within the group. These groups might be work partnerships, professional organizations, workshops, seminars, or internships. At Lesley College Graduate School a faculty group called the Collaborative on Adult Research and Practice is one such learning community. Our shared reflections and analyses of developmental theory and our own teaching have served as a model of the process through which adults learn effectively, and we have collaborated on this article.

The Nature of Adult Development

Adult learning is characterized by diversity. Adults bring a great variety of life experiences to learning communities, and their cultural backgrounds, interests, and passions generate the questions that help determine the shape and course of their learning. Adult development theorists concur that adulthood is marked by emerging challenges and opportunities for growth. Human development is a lifelong process that goes beyond the maturational competencies and understandings of adolescence. Views of self, relationships, and place in the world evolve into old age.

Contrary to earlier theories of human development that concentrated on childhood and adolescence, a life cycle perspective on development sees continued transitions and change as essential elements of adult growth as well. Recent research indicates that adults' lives are patterned in predictable sequences of growth, adaptation, and transformation.¹ The psychologist Daniel Levinson calls these predictable sequences "seasons":

The authors all teach adults at Lesley College Graduate School, Cambridge, Massachusetts. Their specialties range from developmental psychology and management to history and the arts, but they share a belief in collaborative learning and in applying the principles they espouse to their own research and teaching. This article illustrates their collaborative practice.

There is the idea of seasons: a series of periods or stages within the life cycle. The process is not simple, continuous, unchanging flow. There are qualitatively different seasons, each having its own distinctive character.²

Certain key issues and tasks are associated with each life stage. There is, however, a great deal of individual and contextual variation in how themes, stages, phases, or events characterize particular journeys through adulthood. Not all people deal with life events in the same way, and individuals vary considerably along the developmental continuum—even within the same relative positions.

The transitions of adulthood can be described as "decisive turning points" that carry the potential for "intrapersonal integration." In transition, adults rework prior learning, reformulate their identity, and reaffirm or renegotiate previous resolutions.³ This period of vulnerability provides opportunities to challenge old assumptions, reach deeper understandings, seek new balances, and create new life meanings.

Adult development theorists concur that adulthood is marked by emerging challenges and opportunities for growth.

Earlier life experiences that were characterized by a need to work and produce in order to satisfy external authorities are transformed by adults' strong drive toward competence and achievement. The Harvard psychologist Robert Kegan describes the central transition in adult development as moving from an "interpersonal" stance to an "institutional" stance.⁴ Adult learners make a transition to a culture of self-authorship as they become engaged in a learning community.

Many adults enter learning communities with the assumption that the ideas and opinions of others are what constitute knowledge, and learners tend to seek "truths" from those whom they perceive as experts. This tendency is exemplified in the following comments made by an adult who had recently returned to college to complete her undergraduate degree:

The teacher asked the question: "What is the meaning of evil?" For the next three hours I had to sit and listen to all my classmates talk and waste time talking about what they thought evil was. It was so boring . . . but the worst part was that the teacher never gave us the answer.⁵

Development moves from a strict reliance on an absolute authority, through an understanding that truth is relative, to a conceptualization that knowledge is constructed. This movement is characteristic of the transition described by William Perry, in which exclusive reliance on external authority as the "source of truth" is rejected.⁶ As adults enlarge their understandings of the world, they tend to move from a dualistic to a multiple, contextual view in which they may begin to see themselves as the creators of knowledge. The developmental position one inhabits affects the view of self in relation to the world. Transitions that are marked by a process of questioning, evaluating, experiencing, and ultimately synthesizing diminish the importance of external authority, and through this process

adults take ownership of their own learning. The comments of another returning adult student clarify this shift. She describes becoming an active participant in the process of her own growth:

Things have opened up for me, and I'm much more sure about what I want to do. When I first came back to school I felt like it was just something I had to do, to finish. But now I really feel invested in what I'm doing, and I have so many things that I want to check out.⁷

This sense of direction is the beginning of self as knower, out of which grows an informed and more powerful personal voice.

Although this phase of development may be qualitatively different for men and women, when procedures for knowing are integrated with a more committed personal voice adults are on the verge of constructing knowledge. Four psychologists explain the process:

Once Knowers assume the general relativity of knowledge, that their frame of reference matters, and that they can construct frames of reference, they feel responsible for examining, questioning, and developing the systems they will use for constructing knowledge.⁸

At this point in the cycle of development adults have greater tolerance for ambiguity, and questions become more important than answers. They seek to determine criteria for learning, framed and tempered through an understanding that truth is contextually relative. Adults' capacity to construct knowledge is enhanced when communication with others facilitates a connection between the self and the wider community of learners.

The Process of Adult Development

Our understanding of adult development and our experience in successfully educating adult students have led us to understand our work as a three-step process: purposeful engagement in the content of the experience; reflection, evaluation, and analysis (as individuals and as a group); and the application of new learning to concrete situations. Slightly different versions of this construct have been suggested by John Dewey and David Kolb as models for solving problems or illustrating learning styles. Throughout these processes, adults are both passionate and purposeful. And that blend enlivens learning communities and contributes to the building of personal and intellectual support systems.

Diversity and Active Engagement

Although group participation and interaction are critical elements in our model, learning communities need to be flexible and multidimensional, encouraging and building on the diversity within the group. Differences in experience, culture, learning styles, and gender may serve to complement each other. Extremely diverse groups tend to generate many options for solving problems, examining content, or testing and applying theories. When adults share their strengths in those areas, the results can be both powerful and lasting. A dreamer and a mechanic make an impressive pair of inventors. In addition, adults have a complex network of experiences through which they carry themes, questions, and interests that give their search for knowledge intensity and imagination. The community must allow the opportunity to engage material in different

ways, nurturing different types of expression and activity that capitalize on a wide range of passions and styles of learning. Opportunities may include independent study and research, small groups for discussion or study, presentations for large groups, site visits, fieldwork, case study development or analysis, written or visual tasks, and movement between quiet reading and candid conversation. In guiding these types of activities, effective facilitators initiate dialogue among members of the learning community to identify shared and unique experiences, knowledge, expertise, and passions about the subject.

The educator may propose goals and activities for reaching them, but through this initial dialogue the learning community may respond to such plans and offer suggestions for making adjustments or modifications. The educator in such a setting is not the "expert dispensing truths" but the resource person and facilitator, adapting activities, helping to connect content with individual passions, and shaping experience that can provide meaningful learning within the set amount of time for the experience. This approach applies whether the learning situation is a semester course, a daylong workshop, or a two-hour museum visit. While the depth of learning may vary, learning communities are created whenever a group engages in a process of learning that interactively draws from the knowledge and experience of the participants.

The ways educators accomplish this learning again need to be varied, weaving individual interests into the exploration of content. Participants may prepare special projects or presentations, develop research teams, arrange debates, and so on. Invariably, by guiding individuals within the learning community in pursuing their own passions, important questions about the content emerge—in forms more meaningful and critical than educators often expect. This dynamic process of socially constructing new forms of knowledge through the learning community promotes both individual and collective growth and serves to empower adults as learners.

Reflection and Evaluation

A critical aspect of educational experiences for adults is the need for reflection and evaluation of new learning. Educators must provide time and space in every learning experience for participants to reflect on the experience and evaluate its meaning in their lives. In our experience as adult educators, we have found this stage to be the most creative of the learning experience and the one most likely to be overlooked without careful planning. Effective educators facilitate this stage within learning communities by encouraging participants to share their reflections and insights with their peers in every new learning activity. This process requires learners to integrate new learning with past experiences, creating meaning for the present and looking toward expanding on the experience in the future. Participants should reflect critically on new experiences and have the opportunity to challenge information or beliefs set forth based on their own knowledge or experience in the field. The personal authority that adult learners bring to educational activities must be acknowledged and respected by educators. Finally, as learners respond to each others' comments, comparing insights and possible meanings of the experience, collaboration is enhanced and learners have the opportunity to expand their range of

possible meanings of the experience and learn to value various points of view. All participants should have the chance to express their ideas and listen to others as the learning community constructs its own meanings and values particular attributes of the learning activity.

Application and Further Inquiry

Without a context in which to test their new knowledge, adults run the risk of viewing learning as being separate from personal experience. Ideally, in order to ensure integration of knowledge, adults should have a forum for applying new insights and formulating new interactions. Such interactions offer adults opportunities not only to apply theory but to construct new theories based on subsequent experiences. This dynamic process of knowing and doing provides a vital connection in learning experiences.

Adult learning communities offer a variety of ways for adults to implement their new knowledge. Through practice, work experiences, and internships, adults act on what they have learned. Action projects provide a means for learners to try out their ideas through solving problems, collaborating with others to refine concepts, and reacting to changes. This kind of learning allows adults to modify ideas and assumptions by testing their validity or usefulness in the field. Theoretical concepts often represent ideals that do not fit everyday situations, and adults become constructors of knowledge by modifying and shaping theories to conform to their own experiences. In essence, the field becomes the laboratory. As adults continually apply and adapt what they have studied in learning communities, they become more aware of their own learning processes. This awareness ultimately results in a strong foundation from which adults build knowledge based on a broad range of interaction and integration.

A Final Note

The Collaborative on Adult Research and Practice formed at Lesley College to study adult development has experienced this shift between interaction and integration. Through collaborative efforts in small study groups, we compiled and assembled this article, and this task has served as an action project that has allowed us to reflect on our experiences in the group and to apply the knowledge we have gained. The final product also incorporates our hands-on learning as teachers. The examination and articulation of our own learning processes and practices yielded new insights that enhanced our understanding of how adults develop and learn. It became clear that a view of development as a linear path in which adults grow to construct knowledge within a community of learners was not sufficient. Our experience informs our belief that entrance into a learning community becomes an integral part of the developmental process and facilitates growth to more complex and integrative epistemological positions. As our awareness of this phenomenon has continued to grow, our new knowledge has infused our teaching, leading to new interactions with our students, which we have then brought back and discussed with our collaborative group. That circle continues, inspiring our own research and practice and enlivening the academic experiences of our students.

Notes

1. Rita Weathersby, Rita Preszler, and Jill Matuck Tarule, *Adult Development: Implications for Higher Education*, American Association for Higher Education-ERIC/Higher Education Research Report 4 (Washington, D.C.: American Association for Higher Education, 1980), p. 2.
2. Daniel Levinson, *The Seasons of a Man's Life* (New York: Alfred A. Knopf, 1978), p. 6.
3. Weathersby, Preszler, and Tarule, *Adult Development*, p. 22.
4. Robert Kegan, *The Evolving Self* (Cambridge, Mass.: Harvard University Press, 1982).
5. Quoted in Barbara Vacarr, "Peer Mentoring and Epistemological Development of Adults" (Paper presented at the annual international meeting of the Mentoring Association, Kalamazoo, Michigan, May 1989), p. 4.
6. William G. Perry, *Forms of Intellectual and Ethical Development in the College Years* (New York: Holt, Rinehart and Winston, 1970).
7. Quoted in Vacarr, "Peer Mentoring and Epistemological Development," p. 6.
8. M. F. Belenky, B. M. Clinchy, N. R. Goldberger, and J. M. Tarule, *Women's Ways of Knowing* (New York: Basic Books, 1986), pp. 138-39.

Further Reading

- Adams, Frank. *Unearthing Seeds of Fire: The Idea of Highlander*. Winston-Salem, N.C.: Blair, 1975.
- Brookfield, Stephen D. *Understanding and Facilitating Adult Learning*. San Francisco: Jossey-Bass, 1986.
- Daloz, Laurent A. *Effective Teaching and Mentoring: Realizing the Transformational Power of Adult Learning*. San Francisco: Jossey-Bass, 1986.
- Dewey, John. *Democracy and Education*. New York: Macmillan, 1916.
- Freire, Paulo. *Education for Critical Consciousness*. New York: Seabury Press, 1973.
- Kegan, Robert. *The Evolving Self*. Cambridge, Mass.: Harvard University Press, 1982.
- Kolb, David. *Experiential Learning*. Englewood Cliffs, N.J.: Prentice Hall, 1984.

Sending Them Home Alive

Anita Rui Olds

Ideally, a museum visit is a memorable experience that affects a person's life beyond the museum's walls. To be changed in this way, however, people must be fully *alive* where they are; free to drop their self-consciousness, their roles and facades, their fears of knowing too little, or of needing to judge and analyze; free to allow the objects and events to become part of themselves. Over and above the design requirements and neutral architectural backdrop of an exhibit, there is the opportunity and challenge to make each space a more successful place of learning and creativity, where people get more in touch with who they really are and what they might be. The following summary of ideas gathered from research in the field of environmental psychology suggests that achieving such "aliveness" depends on designing an ambience with sufficient environmental stimulation to keep the brain at optimal levels of alertness by meeting at least four basic needs: movement, comfort, competence, and control.

Movement

The freedom to move about in space, assume different body postures, create one's own boundaries, and enter diverse territories is a prime way in which people manifest health and power and fulfill their potential. Indoors, however, the presence of many bodies moving in unpredictable ways is often experienced as discomforting. And because motion is more apparent in small spaces and can make space feel more congested, it is not encouraged where square footage is limited or focused attention is required. In most museums and galleries, visitors are expected to be quiet, move carefully, and behave in a formal and subdued way. These restrictions tire the body and dull the mind.

People feel most alive, however, when they can move freely within a setting to explore its limits and facets, have

access to needs (bathrooms, telephones, lockers, food), and can vary the pace of their activities over time. Thus museum visitors, especially children, may prefer to give an exhibit a "once over" at the outset to determine its physical and informational scope and then proceed to absorb its contents step by step. Some visitors are content to follow a given sequence, while for others the visit is enriched by a more random approach.

It is particularly helpful, therefore, for aspects of an exhibit to allow for fine and gross motor interaction with the materials (pushing buttons, ringing bells, using body weight to unbalance or relocate objects) and encourage different types of movements and body postures: sitting (on chairs, floor, loft with feet dangling); standing; climbing (on stairs, ladders, inclines); lying (under or inside something); encircling something; bending or stooping (through lowered doorways); reaching; looking up, over, or under; moving (through wide and tight spaces, forward and backward, on level or inclined ground, with clear or minimal visibility, and with some or no light at the end of the tunnel). Where participants cannot be permitted to interact with the materials, demonstration by a craftsperson or operator can still have the powerful effect of introducing movement and change into the setting.

Just as a brisk walk may clear the mind, a period of standing or sitting to look at something, if followed by an active experience of walking a distance, changing levels, or using the body vigorously, helps wake up the brain. If this motion takes one to a space with an entirely different configuration and mood, so much the better. In homes, living rooms, kitchens, and bedrooms are distinct places involving different levels of activity, body postures, and degrees of privacy. Moving through such different rooms is often (as in the Pepsi ad) "the pause that refreshes." Similarly, moving through an exhibit in varied ways, through spaces with distinctly different moods and qualities, and using one's body (or someone else's) to make things happen in a display are all ways of creating movement, the sine qua non of life.

Comfort

In addition to bodily movement, the senses also must "move" and receive changing stimulation from the external environment. Our eyes see by scanning a visual field but are reduced to "nonsight" when forced to stare at a stationary image. Our ears hear when sound waves strike and vibrate the ear drum.

Dramatic fluctuations in stimulation level can be frightening and disorienting. But an environment that provides rhythmic patterns of predictable sameness combined with moderate diversity enables the senses to maintain optimal levels of responsivity and makes us feel "comfortable." Natural elements, such as blazing fires, babbling brooks, and gentle breezes exemplify this principle well. They are always moving in ways that are fairly predictable. Yet moderate variations—a flicker or flare, a new pitch, a cooler or warmer draft—prevent boredom or withdrawal by introducing a change that catches the attention and reawakens the nervous system.

The difference-within-sameness so exquisitely present in nature is difficult to create within the static built world. Clearly, in a museum one does not want the background to have such arousal levels that it detracts from the exhibit itself. Paradoxically, it is often the sensorial blandness of a

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museum's setting that makes it difficult for visitors to absorb the details of even a particularly wondrous exhibit. The old adage, "Variety is the spice of life," is the best guideline for generating an ambience that supports aliveness and learning.

This guideline means, first of all, that all the senses should be moderately stimulated. If an exhibit is largely visual, a quiet background of pleasantly varied sounds, odors, textures, and opportunities for movement will actually enhance the visual experience. Variety in physical parameters—scale, areas of light and shadow, floor levels and ceiling and partition heights, room size and number of occupants, degrees of intimacy, activities that are messy and clean—can also powerfully contribute to comfort and heightened awareness.

Attention to detail, especially to the finish materials used on floors, walls, ceilings, windows, and furniture, can have a more powerful impact on users and on the overall "feel" of a place than any other single factor. The textures, colors, and forms applied (or not applied) to interior surfaces are the environmental qualities with which occupants come most closely in contact. These are "read" continually as people experience any setting. Finishes and design details affect what is seen, heard, smelled, and touched, and therefore how people feel in a space.

To the extent that a comfortable environment is esthetically integrated and whole, it is also beautiful. Its physical wholeness and harmony transmit psychic wholeness and tranquillity, elevating the spirit and encouraging the senses to play with surrounding events and forms.

A powerful way to design for esthetic richness is to conceive of all elements of a room (floors, ceilings, walls, horizontal and vertical supports, objects, forms, and architectural details) as interactive surfaces that can be sculpted, painted, draped, and molded, much the way artists sculpt, paint, and mold wood, clay, canvas, fibers, colors, and forms. An environment is most comfortable when there are varied moods throughout the facility, created by interesting things to look at, unexpected surprises of light and shadow, sound, warmth, and color, nooks and crannies, and things that respond, smell, or feel inviting. Then the senses can play everywhere, not solely with the exhibits.

All environments affect people in at least two ways: they suggest a range of activities that can or cannot occur in a setting, and they evoke feelings. Thus environments are always both emotionally felt and mentally interpreted by each occupant. Exhibits tell people what they can do, whereas the beauty and esthetic qualities of a facility affect people's emotions and convey messages about their self-worth. A context of wholeness that unites body, mind, and spirit, thought and feeling, head and heart, invariably uplifts and transforms, helping people to learn and experience things they do not know and making them feel good about themselves and life. When the inner loveliness of the visitor meets the outer loveliness of an exhibit, then there is magic!

Competence

Aliveness also comes from being able to care for one's basic needs autonomously and from being successful at meaningful activities. Museum goers often experience a sense of inferiority and submissiveness since they come to encounter the unfamiliar. They are unable to stake out territories over which they have jurisdiction or to control their activi-

ties and levels of social interaction in customary ways. To compensate for this loss of control and status, visitors should be helped to feel that they belong by being able to make their way easily through the facility and to participate in activities that grant them some control over territory, materials, and social encounters. An interpretable physical layout, reinforced by good signage and graphics in lobbies, corridors, elevators, exhibit areas, and at critical junctures, can help people get where they want to go. Facilities that enable them to fulfill basic personal needs without assistance—coat racks, coffee machines, water fountains, clocks, telephones, diaper-changing tables, conveniently located lavatories—honor independence and personal power.

Where people of a variety of ages and physical conditions are present, adaptive facilities, as well as those scaled to meet a range of developmental and educational levels and interests, further affirm the inherent learning capacities of each participant. Dioramas and full-scale mock-ups of a setting, which create an environment or contextual framework for an exhibit, help all visitors make inferences that bridge the gaps between the familiar and the unknown.

A sense of competence is also boosted by an ordered space whose parts are distinguishable from one another. Areas or zones within a room can be set apart by the amount of physical space between them, distinctive lighting and pools of light, boundaries and dividers, and the use of color—our most powerful visual organizer. With different colors on work surfaces and sitting surfaces at the visitor's eye level, even a visually chaotic environment becomes interpretable. Seeing a red, blue, or green space within a room communicates more powerfully than signage that where the colors begin and end, so do the activities.

There is another sense in which competence can be addressed. Studies of cognitive and personality styles suggest that people process information in different ways (left brain/right brain, screener/nonscreener, reflective/impulsive) and primarily along one of three dimensions: visual, auditory, or kinesthetic. A kinesthetic learner, for example, will have a hard time absorbing information from a purely visual display where there is nothing to touch or manipulate. To ensure that no one is "disabled," a successful exhibit presents the same information in at least these three modalities so everyone can approach and interpret the material in the way that suits him or her best.

Control

Because we do not have eyes in the backs of our heads and cannot protect ourselves from attack from the rear, control and physical security depend upon having something solid at our backs, with the ability to see and hear what approaches head-on. Thus people move across beaches, fields, and parks and stand still only when their backs are against a wall, a tree, or a bench. If protection at the rear is impossible, security may also be achieved by sitting or standing close to a wall, sitting or lying close to the ground, or attaining a position of height from which to survey the surrounding terrain. Most spaces have a zone (usually a corner) that is recognizably more protected than all other points in the room. It is there you will find the teacher's or doctor's desk, dad's favorite chair, and storage for precious items. People instinctively gravitate to a protected zone and like to stay there. Activities requiring a willingness to

sit still and concentrate work best when placed in this location.

Physical security also depends upon being able to make predictions about territories and events beyond one's immediate spatial sphere. Broad vistas, rendered by an architecturally open plan, achieve this sense of security best. Interior windows or walls of glass, however, bold graphics, lighting that does not create mysterious shadows, and balanced acoustics can be intentionally employed in more enclosed settings to provide the "extension of the senses" that is required.

A Concluding Thought

Psychological and physiological harmony depend upon the balance maintained among movement, comfort, competence, and control. Whenever one factor is limited (when movement is restricted, for example, because an exhibit requires the visitor to sit), the value of the other factors must be increased (a more stimulating background ambience, more back protection, varied sensorial modes for approaching the information). Because museum environments often produce many limitations at once, including restricted movement, interaction with unfamiliar materials, and restricted territorial control, the comfort dimension is exceedingly important and requires far more attention than is often characteristic of exhibit design practice. But, when all four needs are met and balanced to complement the extremes of visitor and exhibit limitations and excesses, then the setting truly lives and people leave the museum renewed and more alive.

Further Reading

Alexander, Christopher. *The Timeless Way of Building*. New York: Oxford University Press, 1979.

—, et al. *A Pattern Language*. New York: Oxford University Press, 1977.

Bachelard, Gaston. *The Poetics of Space*. Boston: Beacon Press, 1969.

Fiske, D. W., and S. R. Maddi. *Functions of Varied Experience*. Homewood, Ill.: Dorsey, 1961.

Mehrabian, Albert. *Public Places and Private Spaces: The Psychology of Work, Play, and Living Environments*. New York: Basic Books, 1976.

Walter, Eugene Victor. *Placeways: A Theory of Human Environments*. Chapel Hill, N.C.: University of North Carolina Press, 1988.

Museum Multicultural Education for Young Learners

Joseph H. Suina

Multicultural education has been defined in numerous ways by various groups and individuals for the past 20 years.¹ Some definitions reflect the perspectives of specific disciplines such as psychology, anthropology, and sociology. Others represent the views of professional organizations and accrediting agencies that are concerned with what teachers need to teach and what students need to learn for effective participation in the multiple realities of life. An example of this is the statement on multicultural education issued by the American Association of Colleges for Teacher Education.² Still other definitions have been developed and adopted by educators within schools and school districts across the country.

Most teachers recognize the multiple realities that exist within the population of each school and, in many cases, within each classroom. They are also very aware of the demands that society places on them for preparing students for the world in immediate and long-range terms. These demands mean students must learn to communicate and interact with people from a wide range of cultural backgrounds. Thus multicultural education is first of all a process through which individuals develop ways of perceiving, evaluating, and behaving within cultural systems unlike their own.³ Second, multicultural education requires a consideration of the forces that exert powerful influences within local, national, and global settings. These forces will affect priorities and direction in education at all dimensions.

In the final analysis multicultural education is education for all students in what is reality today—a multicultural society. What classroom teachers and museum educators ultimately do depends upon their point of view and their knowledge and ability to provide positive cross-cultural experiences and attitudes for their students.

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Museums possess a tremendous potential for the development and encouragement of the goals of multicultural education. By their nature and function, museums confront the multiple dimensions of human cultures across time and space. For schools, museums serve as places where people collect, display, and share fragments of the world in which we live. Many focus on nonhuman topics, such as desert ecology, and many more focus on people from different cultures or at least on a part of their life. This slice of culture may be the world of work, or inventions over the years, or a famous artist. Museums are filled with a wealth of real things and replicas of people, places, processes, and events. Most important, museums are places for teaching and learning.

G. W. Maxim describes learning experiences for young students through three modes of contact with the material to be learned.⁴ One is through the symbolic mode. The symbolic mode is by far the most prevalent in elementary schools, and it almost always takes the written form. Yet, while literacy is much valued in our society, experts tell us that the symbolic mode is highly abstract and too advanced for many elementary school-age pupils. Their concrete stage of cognitive development may not permit sufficient comprehension of the material even if the word symbols are recognized. The limited experience of most young children further limits the use of the symbolic mode.

The second type of contact is what Maxim refers to as the iconic mode. This mode involves "imagery" or the use of representations of the actual through physical models, films, and other means. Student-made dioramas or scenes from a unit of study are examples that can be found in classrooms. Pioneer life might be presented by means of a small-scale but lifelike model of a frontier town. Iconic material need not, however, be to scale; the important thing is that it illustrate in realistic form what is being taught. Students may have an opportunity to interact with iconic material through some kind of hands-on experience, but most often they experience it through the medium of film.

The enactive mode is the third form of learning experience. It is learning through the use of authentic items, events, ideas, and people. This form is only rarely used in classrooms, but it does occur when, for example, a community resource person is brought in to do a demonstration or students are taken on a field trip to observe a process. Because the enactive form requires planning, coordination, and possible fees, learners are not often exposed to the "real thing."

Yet the iconic and enactive modes are the most successful because younger learners learn best by doing and "just messing around" with materials and ideas, by experiencing through touching, hearing, seeing, smelling, and tasting. Firsthand interaction with learning materials tantalizes senses not usually exercised in symbolic school experiences. At best, textbooks provide facts and information about names, dates, places, and events, but models and authentic experiences "breathe life" into the print on the page.

At the same time, museums are incredibly rich with iconic and enactive learning opportunities. They furnish firsthand experiences and allow for learning by discovery. One museum, for example, offers a "Try-out Tools Kit" of materials from a prehistoric culture. Through their objects museums can provide the knowledge and stimulate the

thinking skills, social and academic skills, and values and attitudes that can help achieve society's goals for multicultural living.

While all the kinds of learning that museums foster are important, their promotion of knowledge, values, and attitudes are most essential in the achievement of positive multiculturalism. Since museums frequently present different cultures at various points in time, their contribution to greater understanding and appreciation of different lifeways can be invaluable. Many museums state that their goal is to enhance the visitors' ability to understand, appreciate, and respect the cultures they feature. This goal can be accomplished through responsible and sensitive teaching practices in collecting, exhibiting, and explaining artifacts and ideas.

Multicultural education is first of all a process through which individuals develop ways of perceiving, evaluating, and behaving within cultural systems unlike their own.

In museum education, as in any education, the educators are the critical variable. It is they who make the goals of acceptance, appreciation, and respect attainable. As teachers, they provide the inspiration for others to adopt pluralism as a positive goal to strive for.

The critical variable that begins with the teacher requires constant self-scrutiny.⁵ Museum educators, like everyone else, have developed their share of biases and prejudices. Educators are often reluctant to admit that they harbor feelings and attitudes that relegate lesser status to certain groups. Like most people, they tend to think of prejudice and racism as blatant expressions of hatred toward those who are different. Since most educators do not perceive themselves as blatant discriminators, they might see themselves as free of prejudice. Yet their "color-blind" approach may be nothing more than a veneer of acceptance over true feelings, just below the surface, that remain unexamined and so ready to come into play. Dealing with these biases begins with individual awareness. Once the biases have been recognized, action can be taken to correct prejudices and to develop more suitable attitudes and behaviors.

It is important to recognize that the perception of the culturally different almost always involves some degree of ethnocentrism. The perceiver's own culture naturally tends to be the standard against which others are measured and quite unconsciously accorded superior status.⁶ The danger is that such measurement tends to obstruct understanding. Museum educators come into contact with schoolchildren who hold varying degrees of ethnocentrism, and the educators cannot be held responsible for that. They do have to assume responsibility, however, for the impression they leave with the schoolchildren.

It is extremely important that museum educators do not encourage the natural tendency toward ethnocentrism through insensitive dissemination of information. Instead, they should provide a context for the cultures they present,

explaining the circumstances of time, place, and situation the people of the culture faced.

For many visitors both young and old, the museum may be the only "educational" contact they have had with another culture. The impression they get from the museum will persist in future encounters, be they casual conversation about the culture or face-to-face associations with the people and their descendants.

Through their objects museums can provide the knowledge and stimulate the thinking skills, social and academic skills, and values and attitudes that can help achieve society's goals for multicultural living.

Proper presentation of a culture begins with a sound preparation for working with young people and a thorough knowledge about the culture to be shared. The knowledge should be accurate, up to date, and deep enough to cover what is significant for young learners. The presentation should allow the learners to understand people in terms of universal concerns as well as differing responses. Detailed information helps educators present individual artifacts in broad context. Projectile points, for example, can be presented as important food-gathering tools as well as viable weapons for use against the enemy. Recognizing similar needs and cross-cultural concerns provides a framework within which young learners can achieve understanding and empathy.⁷ It is also an effective means for combatting stereotypes, which develop by identifying those who are different through only a few isolated, salient features.

Knowledge also provides a basis with which to model respect for the culture. It is very important, for example, to know and respect a culture's prescribed practice for disposal of the dead. Some cultures believe that the spirit of the dead resides in the remains and will never be at rest until the remains are properly placed in the final resting site. Violating mores like these denigrates museums and those who run them. And insensitivity propagates insensitivity. On this issue of human remains, one Asian-American woman remarked, "Anglos have no sense of right and wrong, and that's just the way they are!" The victim culture will not be the only one to react with disdain on such matters. Many informed groups outside a culture have protested insensitive treatment of one group by another.

In situations where it is permissible to share skeletal remains, the sharing should always be with the utmost respect and dignity. An example of a serious breach of respect occurred in a display of the remains of a prehistoric woman at a much-visited museum. The museum staff renamed her Esther. No doubt the idea was that the name would affectionately personalize the woman, but in reality the name encouraged her to become the brunt of modern-day humor among the museum employees. This humor, thought to be clever, was shared, to the delight of museum visitors. One day Esther was adorned with a tourist hat and sunglasses and a cute notation at her side. After a while she became just a joke.

Callous, inhumane treatment of people and cultures should not be condoned, especially by those charged with the task of developing respect and appreciation for world cultures. Consider that none of us would want to have our remains or those of our loved ones on public display, much less be the brunt of jokes no matter how innocent the intent. Second, such treatment not only violates common decency across cultures but repulses many people. But most tragically, it sends a clear message to schoolchildren that it is perfectly acceptable to treat other human beings in this manner as long as they are not a member of one's immediate concern.

Religion is an area that is highly susceptible to misinterpretation and ridicule, particularly religions that are not Judeo-Christian. A religion that is not fully understood may appear to be "odd" or superstitious. That does not mean, however, that it cannot serve its people or that those who practice it are simpleminded pagans. When shamans are discussed, for example, they are often confused with witch doctors, magicians, and medicine men. Even when the term "medicine man" is correctly applied, it is often thought to suggest primitivism that closes off understanding. Yet the unexplained cannot be explained through scientific reasoning or modern-day religion. The truth of the matter is that many modern-day religions do not fare much better in their explanations of the metaphysical, resorting to faith as the catchall justification through which the unexplained becomes acceptable.

Some cultures have artifacts that are regarded as highly sensitive and even forbidden because of their deep religious significance. That is, the artifact and the meaning it holds are not to be shared with nonmembers of the culture. In some cases they are not to be shared with members who are not yet privileged: children who have not reached a predetermined stage of maturity or adults who have not been initiated.

While this meaning may seem like nothing more than information and so legitimate for sharing by the general public, museum educators need to take care that nonprivileged members of the culture are not exposed to the meaning. It is not always possible to honor a specific taboo, yet museum educators, particularly when they take a traveling display to a classroom, need to be alert to the composition of the student audience. One example of a forbidden artifact is the kachina doll or model of the Pueblo Indian spirit in the Southwest. Kachinas are considered highly sacred and should be respected accordingly. To the people of the Pueblo culture, museum displays or programs using kachinas violate the taboo that the dolls should not be seen in any form outside the ceremonial context. To them such a display or sharing is as sacrilegious as permitting children to play with a holy communion host would be to Roman Catholics. In both instances the artifacts were intended to be shared only under well-defined conditions. Some cultures represented in museums no longer exist, but there are others whose members maintain traditions, and issues regarding the display and treatment of their artifacts are increasingly sensitive.

There are other taboos of a less severe nature that still need to be acknowledged if not adhered to, especially if it is known that the cultural group will be affected in a personal way. Telling and reading stories designated for seasonal use are examples. One culture may have stories for winter use only. If possible, those should be read in winter

only, and the seasonal associations should be explained. Such action is a lesson in respect for all cultures. In this way, children develop the caring and sensitivity that are essential to the values and attitudes of positive multicultural education.

In summary, museums offer young learners experiences that are highly desirable for their developmental level and have the potential to involve multiple senses in a discovery learning format. The content of this museum learning is often the culture of a people. Thus museum educators are in an excellent position to develop ideas and attitudes critical to the success of young learners in understanding and ultimately participating in our multicultural world.

Notes

1. C. E. Sleeter and C. A. Grant, "An Analysis of Multicultural Education in the United States," *Harvard Educational Review* 57, no. 4 (1987): 421-40; Hilda Hernandez, *Multicultural Education: A Teacher's Guide to Content and Process* (Columbus, Ohio: Merrill, 1989).
2. American Association of Colleges for Teacher Education, *AACTA Statement on Multicultural Education* (Washington, D.C.: AACTA, 1972-73).
3. P. G. Ramsey, "Multicultural Education in Early Childhood," *Young Children* 37, no. 2 (1982): 13-24.
4. G. W. Maxim, *Social Studies and the Elementary School Child* (Columbus, Ohio: Merrill, 1987), pp. 267-68.
5. M. J. Gold, C. A. Grant, and H. N. Rivlin, *In Praise of Diversity: A Resource Book for Multicultural Education* (Washington, D.C.: Teacher Corps, Association of Teacher Educators, 1977).
6. P. G. Ramsey, *Teaching and Learning in a Diverse World: Multicultural Education for Young Children* (New York: Teachers College Press, 1987).
7. J. E. Moyer and Guillermina Engelbrecht, "Multicultural Education: Where Do We Begin?" *Childhood Education* 53 (March 1977): 241-44.

The Mark in the Brick and Other Museum Matters

Alice Seletsky

In 30 years of elementary school teaching, I have made hundreds of museum visits with children. My purposes are as diverse as the children I teach, the things that interest them, and the kinds of knowledge I want them to form about the world. What I hope for is that children come to recognize the astonishing inventiveness of human beings and learn to value the ideas and artifacts produced by human imagination and effort.

Moreover, museum-going is a kind of moral imperative in a city like New York, where exhibits of dazzling richness and variety are virtually around the corner or only a bus or subway ride away. Making choices, when there is so much to choose from, becomes an annual challenge: if I limit myself to only three or four visits, I feel as though I've cheated the children; if we do only curriculum-related things, then we're deprived of the many unique experiences that special exhibits make possible. And so, over the years, my students and I have wandered and wondered our way through museums of art and science and cultural and natural history. We've seen historic homes and stately mansions, boarded a Viking ship as well as an American schooner. We've tiptoed through a Chinese garden, heard our footsteps echo in the halls of a medieval cloister. We've learned about the sun and everything under it: fish and fashion and holographs, hieroglyphs and dolls.

The actual visit is the easy part (well, almost). Knowing what to make of those experiences is more complicated. What's been taught and what's been learned are recurring questions. Why do all those museum visits matter?

I can only use my own experiences and the observations I've made of children as the source for my reflections and judgments. In the school journal I keep every year, among scribbled notes for curriculum plans, lists and reminders, and descriptions of classroom life, there are incidents that offer partial answers to my questions. Here is one. We are at the Metropolitan Museum, looking at impressionist paintings. A youngster who has been trying for many weeks to "get sunshine" in the paintings he has worked on in the classroom is studying a Monet with an intensity unusual

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for the 10- to 12-year-olds I teach. "I'm trying to figure out how he does it to make it shine," he says, in response to my query. "How does he get the light in there?" I guide him to a Turner painting, but it's not what he's after. "The light between the trees, the light in the background" are the words he uses, as he keeps looking hard at the painting. At school, using the media available—tempera paint, Craypas, colored pencils—he tries again and again to create light.

I come to all this as a lifelong lover of museums and an archeologist *manqué*. Every museum visit excites me, whether it is a formal lecture-presentation, or the drop-in, do-it-myself kind. Every museum visit extends my knowledge and enriches the ideas of the world I carry in my head. I believe it happens this way for children, too. The notes in my journals record the moments when a particular encounter between a child and an idea, object, or event has evoked the kind of wonder or joy that those of us in the teaching business have come to recognize as the outward, visible sign of things being learned, knowledge formed, meaning discovered.

We've learned about the sun and everything under it: fish and fashion and holographs, hieroglyphs and dolls.

I am particularly fortunate in the matter of museums, as I am in the kind of school in which I teach. Central Park East I is a public elementary school in East Harlem, where I've been teaching fourth, fifth, and sixth graders for the last 13 years. Our students come to us from all parts of the city and reflect the cultural, economic, and ethnic diversity characteristic of New York. The heterogeneity we strive for includes mixed-age and mixed-ability classes. My colleagues and I are in the enviable position of being free to choose curriculum themes we deem appropriate and challenging and to teach in ways that support children's strengths as active learners and makers of knowledge. Our location, just north of Manhattan's famous Museum Mile, is an added bonus, since it puts a number of institutions within walking distance or a short bus ride away and makes brief, informal visits possible. I can drop in with five or six children—often during a lunch period with a little extra time tacked on—to look at things of special interest for that particular group, or to study objects and artifacts related to curriculum work, or to find renewed inspiration when things are getting stale in the classroom.

During last year's study of ancient Greece, for example, we made half a dozen of these impromptu visits to the Metropolitan Museum of Art. One group of children, deep into mythology, studied representations of mythological figures in vases, paintings, and statuary. A day or two later, another group found the model of the Parthenon especially appealing and decided to make one of their own when they returned to the classroom. For another group, reading the *Iliad* was the focus, and we went together—on the eve of battle, so to speak—to look at the chariot and the display of armor and weaponry. It was my hope that real helmets and breastplates and greaves and shields would become the artifactual correlatives for the words in the text, providing both another layer of meaning and a sense of immediacy.

During all these visits, some children sketched, some wrote, some talked; some found links to things we'd been discussing in class, others made new discoveries. A few children didn't come at all, some came but didn't participate much, several made repeat visits. As far as I was concerned, the choice was theirs: I had offered it with the understanding that museums aren't equally appealing to everyone.

Onetime visits and formal lectures aren't very satisfying, I've found, unless there is opportunity for some kind of active participation. The children I teach are willing to listen to things that are interesting, or puzzling, or challenging, and they're very good at asking questions. A successful lecture generates real excitement, and that means they want to *do* something. The trick, of course, is to capitalize on that excitement, seize the moment and build on it in ways that can be extended when we're back in the classroom. Connections and continuity are what I'm after.

The staff at the Jewish Museum, as thoughtful a group of educators as any I've met, knows this well and has designed a program of museum studies that combines interesting content with appealing activities. Let me give an example. Several years ago, the curriculum we were studying was archeology and ancient history. The museum was offering a series for children on this theme, and I arranged for us to make several visits. On our second visit, the talk was about pottery. The discussion was lively, with lots of questions from the children and thoughtful responses from Sheila Friedland, our instructor. Oil lamps figured much in the discussion. When we moved on to the morning's activity, working with clay, Sheila suggested that the children make oil lamps and try to improve on some of the ancient models we had looked at. Not everyone chose to do it, of course, but some boys were immediately interested and lamp making became an activity that absorbed them in the classroom for the next several weeks. They made many different models and—with their somewhat nervous teacher standing by with boxes of baking soda—tested them for efficiency. For the sake of verisimilitude, we used olive oil first and discovered that ancient dwellings must have been both smelly and smoky places. Commercial lamp oil and wicks made for a more satisfying series of experiments. The boys called it the Great Oil Lamp Contest and took considerable pleasure in the competitive aspects of the enterprise, inviting groups of classmates to act as "impartial" judges when the final series of "light-offs" took place. It was active learning at its very best: a self-directed process of raising questions, testing hypotheses, reworking ideas, sharing discoveries.

There's a fitting epilogue for all this. I saved the rejected models and, long after the boys were grown and gone, took them out again when we were about to begin this year's reading of the *Iliad*. In the darkened classroom, we lit the oil lamps and listened to Homer's words—"Sing goddess of the wrath of Achilles"—and there it was: instant historical continuity.

Even after all these years of working with children and watching for the special moments when the encounter with a particular idea or object reveals new possibilities for things to be learned, I'm surprised when I see it happening. I feel privileged, awed, humbled. The following is an entry from the journal I kept during my first year of teaching at Central Park East School. It was early in the school year, and I didn't know the children very well when I took them to

the Metropolitan:

We were heading for the exhibit of musical instruments and found ourselves among the Dutch painters. Someone had an easel set up and was copying a painting. All the children stopped to watch for a few minutes but were soon ready to go on. The copyist was working very slowly, very deliberately; nothing much seemed to be happening. But Miranda (who was 11) was fascinated. In that very soft, gentle way of hers, she asked if she could stay and watch. My impulse was to refuse. I couldn't leave the parent who was with us behind with Miranda. And I didn't want to leave Miranda there by herself. The rest of the group was restless, and I was worried about my ability to manage all 30 of them alone. "I'll stay right here," Miranda said. "I won't move. I promise." And there she was, when we went back for her almost an hour later, intent on what the painter was doing. She looked as though she had scarcely moved. On the way home, she couldn't stop talking about what she had seen. This is the Miranda who has said hardly anything since the beginning of the term. She talked about how carefully the artist mixed colors, squeezing a little out of one tube and then another, how he used his brushes, the kind of strokes he made. She was struck by how little work he'd done on the actual painting during that hour. And then she said, "It must be very hard to get the feeling of the painting. That's probably why it takes him so long." The painting was Vermeer's *Young Woman with a Water Jug*. What was the feeling, I asked. "Quietness," she said.

For weeks after that visit, Miranda studied reproductions of paintings in some of the art books we had in the classroom. She pored over them, even though she had no special interest in painting as an activity and rarely chose it at project time. I was aware of her interest, without quite knowing what it was or what she was looking for. She didn't talk about what she was thinking or experiencing, and I didn't press her, resisting my usual impulse to question, discuss, probe, analyze, and suggest. Some weeks after that, she began to write poetry. The connection is suggestive, though it would be presumptuous to argue causality. However it happened, for some years after she was grown and gone, Miranda sent me a poem or two at Christmas, always signing them, "From the poet, Miranda."

One of the hardest things for any of us to do is create for ourselves the atmosphere of a place we know only from photographs or films or a study of artifacts and objects. There are qualities of "place" that come to be known only through firsthand experience, locating oneself in the midst of things and looking up and out at them. I wanted to help the children experience that special sense of "place" several years ago when we were planning our class production of *The King and I*. It was to be the culmination of our study of Southeast Asia, which we had been working on for several months. We had already made several visits to the Hall of Asian Peoples at the American Museum of Natural History. We had looked at masks and pottery and textiles and statues. We had learned about language and culture and history, read folktales, and listened to recordings of music. But it wasn't quite enough. We had a fair amount of factual knowledge, but no real sense of "atmosphere." Jane Andrias, whose title of art teacher at our school is too narrow a descriptor for the many ways she finds to educate children's sensibilities, suggested a visit to the Chinese garden at the Metropolitan. It wasn't the palace garden at Bangkok, but it was close enough. It was there Jane took the group of self-elected set designers, whose formidable task it was to transform the stage of the auditorium into King Mongkut's

garden. The several visits they made provided opportunities for more than "soaking in atmosphere"; with Jane's guidance, the children were also learning about the special perspectives and world view embodied in Asian art. The backdrop they painted was quite beautiful, combining the mood of the garden with the iconography of Thai art, the imagery transformed by each child's unique perspective, style, and ability. And you could hardly tell that they had used standard-issue tempera paint and a couple of cans of gold paint on three large bedsheets sewn together.

"Using" museums in this way serves a larger purpose; it makes them familiar and thereby more readily knowable. Let's face it—large museums are imposing, sometimes forbidding places. The collections they contain, whether of great antiquity or state-of-the-art contemporaneity, are awesome precisely because they represent the immensity of the human imagination and the diversity of human expression. We grown-ups know that and are appropriately reverential; it's different for children. Our "don't touch" admonitions, necessary though they are, also restrain what are very natural impulses of children: to reduce awe to manageable proportions by touching, holding, playing with, getting close to things.

The single most memorable experience I've had with children occurred at the Jewish Museum. Andy Ackerman, our instructor, spoke from firsthand experience as an archeologist about excavating, stratigraphy, the importance of pottery. And then everyone got a potsherd, a personal piece of 3,000-year-old history, to hold and examine and reflect on. The challenge was to identify the pieces and date them: it became an almost perfect "lesson." The children had to engage with ideas in order to play the game, and winning or losing was the consequence of observation, making comparisons and judgments, recognizing small details, remembering some crucial piece of information, sharing insights, arguing for one date or another. It was not quiet, it was not calm, it was not orderly—it was merely very wonder-ful.

Then came the second shining moment. Andy herded the children together and sat them down in a circle beside the partially rebuilt wall of an Iron Age house. He held up a piece of mud brick and pointed to a kind of dent or groove on one side of it.

What was the mark, he asked, and how did it get there.

The brick was passed, with some difficulty and no little argument, from hand to hand. The children held it, stroked it, brought it close to their eyes, asked again and again—is it real? And behind that question was, I think, a larger one: what does it mean that someone took a lump of clay, shaped it into a brick, used that brick to build a house in which real people lived—and here I sit, 2,000 years later, holding that piece of history in my hand?

What is the mark in the brick, Andy asked. Much speculation; no answer.

It was a thumbprint.

That anonymous, ancient brickmaker had pressed his thumb into the soft clay and left the mark there. Was it an act of extreme haste or supreme imagination? Did he know we would find it and try to fit our own thumbs into the tracing of his and touch the past?

There has never been a moment quite like that one. It's a good thing. Awe and wonder aren't so easy to bear.

MER at 20: Some Observations on Museum Education

Kenneth Starr

It is an honor to be invited to join you in celebrating the 20th anniversary of the Museum Education Roundtable, which through massive amounts of sustained work by many of you over the years has made signal contributions to museum education, far beyond the District of Columbia, all on the solid foundation of being actual "do-ers" of education.

Apart from the actual educative function, you also have contributed in two other respects. One, you have given heightened meaning to the word *cooperation*, for you have dealt with your common challenges in concert, and that is not always easy in local situations, given the twin green-eyed demons of individual and institutional competition. Two, you also have given substance to the word *volunteer*, for you have achieved your successes through the giving of your own personal time and energies.

As a perquisite of being a bit older than some of you, and of having weaved my way through the busy highways and quieter side roads of our marvelous museum world, I would like to make some observations about five aspects of museum education that relate to your concerns, regardless of discipline. Those observations are distillates of my own experience and thinking, and so represent only my personal perspective. Little of what I shall say will be new. Most of it will have meaning, or should have meaning, not only for all of you as working educators, but also for trustees, directors, and other staff, all of whom should consider themselves educators as well.

Resources

The first aspect has to do with the resources at our disposal, and in that regard we are fortunate beyond measure in having access to awesome resources, both human and material. Apart from having access to curatorial staffs—and having begun my museum career as a curator I am quick to add that not all curators are equal, with some more equal

than others as regards their feelings of responsibility to you and the public—you also have access to books and, most particularly, to collections that speak of all of nature and human invention. Your potential for sharing the magic, the absolute magic, of those objects and of all that they represent is limited only by your creativity and your ability to communicate that sense of magic. There is not a single object in your collections, no matter how humble or plain, that does not have its mind-exciting tale to tell, its soul-satisfying qualities to share.

Communicating with Your Audiences

In telling that tale and in sharing those soul-satisfying qualities, personal and professional ethics are first and foremost: we must have integrity of content and integrity of presentation, for we are in the business of education, not indoctrination and not entertainment. Sometimes it is difficult to hold to that principle, for, on one hand, we feel strongly about many issues, some of them socially sensitive, and, on the other hand, admittance revenues increasingly are a factor in our decisions.

Of but slightly lesser importance is the need to "know your stuff," whatever that "stuff" is, and to balance fact with concept, and both with the encouragement of thinking. There also is need to balance quality and quantity, not sacrificing the quality of what we present in order to win more people and more dollars. For many of us who are educators there is a constant intellectual tension between wanting to move many people a little way and wanting to move the few a long way. As a professional I still have not resolved that tension, but as an individual I always have found museums to be intensely personal experiences. Whether from a professional or an individual view, however, I remain nervous about moving too far in the direction of mass experiences, especially when the process is dollar driven. We of course should strive to educate as broadly and as deeply as possible, but never at the expense of quality.

We also should seek creativity in our teaching, using our heads—*really* using our heads—to think of *truly* fresh and imaginative approaches to communicating our subjects in ways that challenge the mind and please the spirit without trivializing the substance. It is not easy to move beyond traditional patterns—many of which, incidentally, are practical, time-tested, and eternally effective—but whatever we do it is vital that we always remain open to new ways of thinking and of dealing with our ever-growing, ever-changing challenges. Such efforts take extra work, both brain and back, and for one's pains in trying to initiate change one often meets with active resistance, polite disregard, or, at best, unenthusiastic acceptance. In my former incarnation as a museum director I urged my staff members to take a small part of their time and dollars to experiment with new ideas and approaches, but met with only partial success, for it was difficult for some of them to change. Old ways are easier and more comfortable.

Closely related to encouraging new ways is evaluation, which in its many manifestations is one of the most fruitful approaches that has come into the museum world in recent years. Its use in education is no less important than it is in exhibits, analyzing our programs in order to ascertain how effective, or ineffective, they are in relation to their purposes. The technique is particularly valuable in assessing education programs, for with the flexibility of museums, at

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least compared with more rigid school systems, one more easily can modify education programs on a continuing basis. The expression, "different strokes for different folks," is very important to keep in mind in our increasingly diverse contemporary world, for it should move us to consider our widely differing audiences and to adapt our presentations to match.

Professional Relationships

Guidance and support must come from the very top of the museum organization, and if educators are to be successful in devising and implementing their programs they must have access to their directors and be able to persuade them of the importance of the education component. Given the fact that most directors have their training and experience in other areas of museum endeavor—and, alas, more frequently, nonmuseum endeavor—such persuasion is not always easy, but citing Norman Cousins in another context, "The only thing greater than the difficulty is the necessity." The times are on our side, for there is growing attention to education throughout the country, with particular emphasis on science education. We can but hope that "the education president" will put his money where his mouth is and, further, that he will include museums on his education agenda. "Take care of your men" is a military dictum, but it also applies to heads of museum education departments. Support and speak up for education and your educators in every way that you can, including being right up there in front when the director makes budget allocations for programs and hands out salary increases, constantly reminding him or her of your value to the museum and its constituencies.

In like way, support and help your volunteers. The relationship between paid and volunteer staffs should be a symbiotic one wherein you gain in additional human resources and your volunteers gain in satisfaction from self advancement and from being part of an extremely important enterprise. As with all human relationships, those between staff and volunteers are built on needs, and so long as there is mutual satisfaction of those needs the relationship will remain strong. There has to be something in the relationship for everyone.

Societal Aspects

Here, the overriding concern is for women and minorities. My awareness of this concern has been heightened by my experience at the National Science Foundation, where there is a strong thrust toward bringing greater numbers of women and minorities into science. The same urgent need continues to exist in our museum world at all levels, including boards of trustees, directorships, and senior positions. Such especially is the case with respect to minorities, a cause for concern in virtually every professional situation, including your meeting this morning and your gathering this evening. When I left the AAM Accreditation Commission last year I composed a letter to my fellow commissioners in which I urged the commission to add to the accreditation questionnaire questions about the numbers of women and minorities on museum boards and in senior positions. Given the diversity of our audiences, especially in major urban centers, and the critical importance of the matter for our nation, it is incumbent upon us to bring about a similar diversity in our own institutions, including especially the education staffs, who are our

public face. As Mark Twain observed about the weather, however, everyone talks about minority representation, but no one does anything about it. In way of personal but highly relevant comment I take the opportunity of noting that when John Kinard, director of the Smithsonian's Anacostia Museum, died recently, we lost a good friend and dedicated fellow professional.

Incidentally, before I leave the subject of equity, and in puckish but also serious manner, I once again was reminded this morning, as I studied the group of attendees, that there is a reverse need among museum educators for more men.

The Schools and the Children

As for the schools, over the years I have wrestled with the challenges of how to deal most effectively with the formal school system and to strengthen the mutually fruitful relationship between schools and museums. It of course is useful to appeal to the teachers themselves, but only the more imaginative and dedicated of them tend to respond, and even those who do respond have to contend with rigid structures that make it difficult, and in some cases impossible, for them to use museums in a consistent and effective way. Heightening that difficulty is the fact that some school administrators do not understand, or perhaps do not want to understand, the nature and contributions of museums as education resources, and often look upon them either as threats or as "second-class citizens." Alas, as in too many other areas, I have no answers, but I would suggest that if you are striving for heightened cooperation with the schools you might increase your contacts at the top with school boards, superintendents, and assistant superintendents, especially those responsible for curriculum, impressing upon them the distinctive, complementary, and important contributions that museums make to the educational process.

As for the children, in two different sessions this morning I heard ever so thinly disguised negative comments about dealing with children in museums. In one session an individual referred to the stereotype of museum educators as dealing with children, as though that somehow was an unimportant or lesser responsibility, while in another session I heard reference to shifting from the focus on children. Now, even though I have a 10 percent hearing loss, I am reasonably sure that I heard correctly. Do not neglect the children, for as Kahlil Gibran so perceptively wrote, "They are not your children, they are the children of tomorrow." They also are the adults of tomorrow, and if you do not make your museum a rewarding place for them to come as children today, they will not come as adults tomorrow.

Thank you again for inviting me to join you this evening. You and the Museum Education Roundtable now mark 20 years of cooperation and success, with everyone gaining: you yourselves as individual professionals, your institutions, your profession, and your publics. In a recent conversation between us, Michael Templeton opined that pound for pound MER has had a more sustained impact on museum education than any group in the country, and that comment is right on the mark. Borrowing from Tiny Tim and *A Christmas Carol*, I end my observations by saying that you all can be very proud, "every one."

What Research Says about Learning in Science Museums

Trying It Out

Patricia A. McNamara

We can increase our chances of making effective exhibits by paying more attention to what is already known about how people learn in museums and by simply trying out exhibit ideas with real visitors as the exhibit is developing.

Psychological and educational research has a long tradition in museums. Sixty years ago, Edward Robinson examined the behavior of art museum visitors under a variety of conditions.¹ Recent research ranges from the predominantly descriptive² to analyses of how specific exhibit features, such as display techniques³ or opportunity for hands-on interaction,⁴ affect visitor behavior. These studies, however, have had surprisingly little impact on the development of exhibits. No reliable general theories yet exist to predict how visitors will respond to exhibit features in a variety of museum settings. If anything, some research findings—for example, the short time visitors spend at displays—unfortunately have made many exhibit designers pessimistic about the education potential of museums.⁵

In the absence of useful theories about how visitors learn in museums, we can nevertheless improve our exhibits through pragmatic and empirical methodologies, by carefully and systematically investigating the relationships between visitors and exhibits in our own museums.

The use of goal-referenced research techniques to improve an exhibit's communication effectiveness is usually called formative evaluation.⁶ The control of variables, large sample sizes, and attention to statistical significance that characterize many kinds of research activity usually do not apply to formative evaluation.⁷ This technique is, however, more than just the casual sharing of personal anecdotes ("Well, the visitor I talked to really thought it was a great exhibit"). Formative evaluation involves gathering information about visitor interactions with an exhibit, information that is systematic enough to permit informed decision making during an exhibit's development.⁸ Evaluation data are used to make changes that lead to more effective communication, but not necessarily to understand why one approach was more successful than another.

To produce exhibits that are more effective from the visitor's viewpoint, it is helpful to think carefully about exhibit outcomes in terms of specific and observable visitor

behaviors.⁹ While behavioral objectives are useful measures for evaluation during and after exhibit development, they are also helpful as planning tools that aid communication among exhibit team members.¹⁰ Good how-to manuals about writing behavioral objectives are available to guide the inexperienced.¹¹

Formative evaluation is often called "prototyping." It involves building an approximation of the exhibit in its final form. While one could build an expensive prototype, few museums have such generous budgets. At the Science Museum of Virginia, we define a prototype as something we would be willing to throw away if it does not work. In spite of a prototype's obvious crudeness, Steven Griggs and his colleagues at the British Museum (Natural History) have demonstrated that visitors' behavior with fairly simple, two-dimensional mock-ups is highly predictive of visitors' reactions to and understanding of the finished, full-scale exhibit.¹²

To produce exhibits that are more effective from the visitor's viewpoint, it is helpful to think carefully about exhibit outcomes in terms of specific and observable visitor behaviors.

The best way to find out what visitors might do with a particular exhibit is to spend a few minutes observing what visitors *actually* do. When observing visitors, it is often helpful to develop shorthand codes to document visitor behavior. This technique makes observation less physically taxing, and it also simplifies comparison of observations made of different visitors or by different observers.

Interviews with visitors need not be complicated and time consuming. Often the most useful question to ask (especially with initial versions of an exhibit) is simply, What do you think this exhibit was about? An exhibit that does not prompt appropriate answers to this question is unlikely to meet any objectives that you have outlined.

The cycle of information gathering and exhibit change is continued until the exhibit either is abandoned or communicates effectively. One of the novice evaluator's frequent concerns (before even beginning the first project) is how to decide when an exhibit is "good enough." In practice, that is rarely a problem. The majority of prototype exhibits we develop are initially effective for 10 percent or less of our audience, and that proportion dramatically rises with the first few modifications we try. As Joanna Jarrett points out, testing continues until the law of diminishing returns applies.¹³ Additional effort may be rewarded by only modest improvements in effectiveness, and at that point the exhibit can proceed to final fabrication.

If a prototype is modified until it is successful, then a more permanent version based on that prototype is likely to be at least as successful.¹⁴ Although formative testing can quickly identify exhibit weaknesses and failures, it cannot always suggest what would be better,¹⁵ and the selection of possible modifications is in the hands of exhibit developers. The insights such testing provides are invaluable, however, to creativity and efficient teamwork.

As useful as this exhibit development process is, it is still

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often difficult to convince museum administrators of its worth. Exhibit developers can become frustrated in their attempts to conduct formative evaluation when museum administrators insist on sticking to the original plans regardless of feedback from visitors. As Roger Miles has observed, "The views of visitors are quite likely to be in conflict with those of management."¹⁶

The failure of visitors to learn from exhibits is not merely a philosophical issue. As one museum found out, the disgruntled visitor might be a newspaper reporter.¹⁷ So do not wait for bad publicity; try a little formative evaluation today. Be surprised and amused by what does not work, and take pleasure in what does. The museum experience will improve for all of us.

Resource People

Minda Borun, Franklin Institute Science Museum, Philadelphia, Pennsylvania

Patricia A. McNamara, Science Museum of Virginia, Richmond, Virginia

Stephen Pizzey, Discovery Dome, c/o The Nuffield Foundation, London

David Taylor, Pacific Science Center, Seattle, Washington

Sam Taylor, New York Hall of Science, Corona, New York

Notes

1. E. S. Robinson, *The Behavior of the Museum Visitor* (Washington, D.C.: American Association of Museums, 1933).
2. J. H. Falk, J. J. Koran, Jr., L. D. Dierking, and L. Dreblow, "Predicting Visitor Behavior," *Curator* 28, no. 4 (1985): 249-57.
3. L. D. Dierking, J. J. Koran, Jr., J. Lehman, M. L. Koran, and E. A. Munyer, "Recessing in Exhibit Design as a Device for Directing Attention," *Curator* 27, no. 3 (1984): 228-48.
4. J. J. Koran, Jr., M. L. Koran, and S. J. Longino, "The Relationship of Age, Sex, Attention and Holding Power with Two Types of Science Exhibits," *Curator* 29, no. 3 (1986): 227-35.
5. V. Beer, "Great Expectations: Do Museums Know What Visitors Are Doing?" *Curator* 30, no. 3 (1987): 206-15.
6. C. G. Screven, "Evaluation: A Goal-Referenced Approach," *Curator* 19, no. 4 (1976): 271-90.
7. S. A. Griggs, "Formative Evaluation of Exhibits at the British Museum (Natural History)," *Curator* 24, no. 3 (1981): 189-201.
8. M. C. Linn, "Exhibit Evaluation—Informed Decision Making," *Curator* 19, no. 4 (1976): 291-302.
9. R. F. Mager, *Measuring Instructional Intent* (Belmont, Calif.: Fearon Press, 1974).
10. R. S. Miles, "Lessons in 'Human Biology': Testing a Theory of Exhibition Design," *International Journal of Museum Management and Curatorship* 5 (1986): 227-40.
11. R. F. Mager, *Preparing Instruction Objectives* (Belmont, Calif.: Fearon Press, 1962).
12. S. A. Griggs and J. Manning, "The Predictive Validity of Formative Evaluation of Exhibits," *Museum Studies Journal* 1, no. 2 (Fall 1983): 31-42.
13. J. E. Jarrett, "Learning from Developmental Testing of Exhibits," *Curator* 29, no. 4 (1986): 295-306.

14. Griggs and Manning, "Predictive Validity of Formative Evaluation."

15. R. S. Miles, "Exhibitions: Management for a Change," in *The Management of Change in Museums*, ed. Neil Cossons (Greenwich, England: National Maritime Museum, 1985), pp. 31-34.

16. Ibid.

17. E. Kastor, "The Re-creation of the 'Material World,'" *Washington Post*, July 5, 1988.

This article is the third in a 10-part series published by the Association of Science-Technology Centers (ASTC) and funded by the Institute of Museum Services. ASTC is disseminating the articles in collaboration with the Museum Education Roundtable, the International Association of Educators, the Association of Youth Museums, the International Laboratory for Visitor Studies, and the American Association of Botanical Gardens and Arboreta. Coordinating editor for the series is Beverly Serrell. Single copies of the articles are available for \$1 each from ASTC, 1413 K St., NW, Tenth Floor, Washington, D.C. 20005.

The Whole Audience Catalogue

In August 1989 Elaine Gurian, deputy assistant secretary for museums, Smithsonian Institution, and Mary Ellen Munley, chief of museum education, New York State Museum, Albany, wrote to a group of friends and associates asking them to contribute to an effort to gather and distribute materials that they have found useful in taking on the role of audience advocate. To quote from their letter:

Some of us within the Education Committee of the American Association of Museums and on the staff of the Smithsonian Institution would like to investigate the gathering and eventual distribution of the most seminal or "just plain useful" materials that will help us all to become audience advocates. Additionally, we intend to design training mechanisms that will fit within the calendar of the already employed and overworked museum professional.

As a step toward establishing a series of self-help forums in audience advocacy, we are inviting you to join us in suggesting baseline literature that we can read, understand, and integrate into our professional tasks. We would appreciate it if you would send us a short list of the most important and useful things you have read, since you are known to be an advocate within your museum. These suggestions can come from both literature within the field and external to us.

Gurian and Munley plan to compile and sort these responses to produce "something that looks like a bibliography but works like the *Whole Earth Catalogue*." The responses so far include some careful bibliographies of literature primarily within the museum field, as well as a number of lists that address broader topics and a wider field of reading. There is a remarkable overlap of suggestions from the fields of humanistic psychology, education, and environmental psychology. Some of the responses cover material included in this issue of the *Journal of Museum Education*. (My own response to the letter was to suggest this issue as my contribution!) Reading preferences are, of course, idiosyncratic, but other people's lists at least give us insight into their thought processes and, at best, include items that may intrigue us. Selections from a few of the letters are published here to give a flavor of the literature that has inspired, educated, and entertained museum professionals. We have focused primarily on letters that mention publications beyond the professional literature about museum visitors.

Readers are welcome to contribute their own favorite titles to the collection-in-progress. Write to Elaine Heumann Gurian, Deputy Assistant Secretary for Museums, Smithsonian Institution, Washington, D.C. 20560, or Mary Ellen Munley, Chief, Museum Education, New York State Museum, Cultural Education Center, Museum Education/Second Floor, Empire State Plaza, Albany, N.Y. 12230.

One correspondent suggested that "resources for audience advocacy" should become a regular feature of the *Journal of Museum Education*. If you'd like to share your list with us, write to the journal at P.O. Box 506, Beltsville, Md. 20705.

George E. Hein

**Carol B. Stapp, Director, Museum Education Program,
George Washington University, Washington, D.C.**

Quickly searching my mental bookcase to identify what have been influential readings for me, I came up with two categories, both of which helped me see human beings and museums in a new light. In the first category—which focuses on the needs and interests of regular folks—fall *Freedom to Learn*, by Carl R. Rogers (Columbus, Ohio: Merrill, 1969) and *All Our Kin: Strategies for Survival in a Black Community*, by Carol B. Stack (New York: Harper and Row, 1974). These two seemingly disparate books unblinkingly address issues of interaction and coping that stray from the middle-class norm. An article by Robert Coles—"The Art Museum and the Pressures of Society," in *On Understanding Art Museums*, edited by Sherman E. Lee (Englewood Cliffs, N.J.: Prentice Hall, 1975)—serves as a bridge between the first category and a look at the museum as an authoritative institution. My favorites in this category are *An Anti-Catalog*, by Rudolf Baranik et al. (New York: Catalog Committee, 1977) and *The Visitor and the Museum*, edited by Linda Draper (Berkeley, Calif.: Lowie Museum of Anthropology, 1977). In the latter, the articles by Nelson Gruburn and John Kinard stand in provocative juxtaposition.

What I have valued about all these readings is their effectiveness in causing me to question my premises about people and museums. Perhaps they don't provide much in terms of "hard data," but they pack a wallop intellectually and emotionally for educating ourselves and other museum practitioners about the barriers between the world view of the general public and that of the museum specialist. Although I was by no means to the manner born, by virtue of educational opportunity I have gradually moved away from my lower-middle-class origins, and I need reminders of that fact. The contact I once had with museum visitors on the floor for hours every day at the Philadelphia Museum of Art is no longer my privilege.

Let me mention also that knowing certain powerful personalities and undergoing significant experiences opened my eyes in ways that reading never could have equaled. Of course, there's been my wonderful mentor Marcella Brenner, who has shared with me her wisdom about being an agent of change. And then there were my two years abroad—in France and in India—where I felt cultural displacement rather acutely from time to time. I suspect that these served me well—again as a reminder—once I became part of an institutional establishment.

Dennis O'Toole, Vice-President and Chief Education Officer, Colonial Williamsburg, Williamsburg, Virginia

I circulated your letter among directors in our programs area, and I have a few titles to add to what I hope is a growing and by now impressive list. These titles, taken together, form what our education staff think are "touchstone" works in the areas of evaluation theory and practice and the exhibition process:

Museum Visitor Evaluation, by Ross Loomis (Nashville, Tenn.: American Association for State and Local History, 1987)

The Design of Educational Exhibits, by Roger Miles et al. (Winchester, Mass.: Allan and Unwin, 1982). The author is head of the Public Services Department at the British Museum (Natural History).

Theory, Research and Practice, proceedings of the first annual Visitor Studies Conference, 1988, edited by Stephen Bitgood, James T. Roper, Jr., and Arlene Benefield (Jacksonville, Fla.: Center for Social Design, 1988).

All of our staff commented that little has been done so far on the most common educational experience for museum visitors, encounters with live interpretation. Here the best work comes from the marketing perspective, especially where focus groups have been used to get at visitor expectations and reactions to the museum experience. The J. Paul Getty Trust-funded studies, soon to be published, and independent studies by Greenfield Village and Henry Ford Museum and Colonial Williamsburg are the best in this area so far. And to put all this in a theoretical framework, try Dean MacCannell's *The Tourist: A New Theory of the Leisure Class* (New York: Schocken Books, 1976).

Thomas J. Peters and Robert H. Waterman, Jr.'s *In Search of Excellence* (New York: Harper and Row, 1982) and the excellent videotapes Tom Peters has produced still offer, in my opinion, the best materials available on how to build and guide "consumer-oriented" organizations, teams, and groups. Probably my favorite tape in the series is the one that introduces the viewer to Stew Leonard's supermarket in Connecticut. Here's the last word in listening to and responding to the consumer.

Human development theory? There's a lot to choose from. But my personal favorite is Walker Percy's *The Message in the Bottle* (New York: Farrar Straus and Giroux, 1975), especially the chapters titled "The Loss of the Creature" and "The Message in the Bottle." The book's subtitle suggests the approach Percy takes: "How Queer Man Is, How Queer Language Is, and What One Has to Do with the Other." This is not Piaget, McCarthy, or Jung, but it rings true for me today just as it did in 1975.

A multicultural learning perspective can be gained in many ways. Contemplating the history of race and ethnic relations in this country works for me, as do stories (fiction and nonfiction) of men and women who have struggled to make meaningful lives for themselves and their people amid the hardships and depredations—and blessings—of their circumstances. In this regard, I have benefited greatly from having read Richard Rodriguez's *Hunger for Memory: The Education of Richard Rodriguez* (Boston: David R. Godine, 1982); John Edgar Wideman's *Brothers and Keepers* (New York: Holt, Rinehart and Winston, 1984); Harry Ashmore's *Hearts and Minds: A Personal Chronicle of Race in America* (rev. ed., Cabin John, Md.: Seven Locks Press, 1988); David Bradley's *The Chaneyville Incident* (New York:

Harper and Row, 1981); and Winthrop Jordan's *White over Black: American Attitudes toward the Negro, 1550–1812* (New York: Norton, 1977).

Mary Worthington, Associate Director, Los Angeles Children's Museum, Los Angeles, California

On human development theory, *Childhood and Society*, by Erik Erikson (New York: Norton, 1964), contains the first developmental theory I ever read that stuck. I still use it, as I do *Toward a Psychology of Being*, by Abraham Maslow (Princeton, N.J.: Van Nostrand Reinhold, 1968). Piaget's theories have had a powerful influence on the field and on me, but I've never been able to read him in the original. David Elkind does a good job of interpreting in his *Children and Adolescents: Interpretive Essays on Jean Piaget* (New York: Oxford University Press, 1970), and Mary Ann Pulaski's *Understanding Piaget: An Introduction to Children's Cognitive Development* (New York: Harper and Row, 1971) is the most readable book about Piaget I know.

Other basic child development literature:

Frank and Theresa Caplan, *The Power of Play* (Garden City, N.Y.: Anchor Books, 1974).

Ronald W. Henderson and John R. Bergan, *The Cultural Context of Childhood* (Columbus, Ohio: Merrill, 1976), a textbook marked, as its title suggests, by a relativist approach.

Dorothy H. Cohen and Virginia Stern, *Observing and Recording the Behavior of Young Children* (New York: Teachers College Press, 1983). This little book was the text for my observing and recording classes when I taught at Pacific Oaks College. It's a comprehensive guide, useful for training museum staff in the techniques. We encourage our museum's staff to do written observations as part of training and for exhibit evaluation.

Dorothy Briggs's *Your Child's Self-Esteem* (New York: Doubleday, 1967) is a classic, though not as classic as Dr. Spock, which is still, I think, the best how-to-parent book around. The latest edition is coauthored with Michael Rothenberg and titled *Dr. Spock's Baby and Child Care: 40th Anniversary Edition* (New York: Dutton, 1985). This category continues to proliferate, of course, reflecting the trends and fashions in childrearing. The books are useful to dip into occasionally to stay current and for basic child development information.

My educational philosophy was formed during the 1960s and fueled by the writings of George Leonard, James Herndon, Herbert Kohl, Jonathan Kozol, and the like, who taught in urban elementary schools and were dedicated to freedom, reform, and making their principals crazy. All of them were, to one degree or another, influenced by A. S. Neill. From the same era, try *The Metaphoric Mind*, by Bob Samples (Reading, Mass.: Addison-Wesley, 1976).

When I think about adult learning I think of the writings of Mortimer Adler and Jerome Bruner and of Johan Huizinga's *Homo Ludens: A Study of the Play Element in Culture* (New York: Beacon Press, 1955), which I only recently read, though it is also a classic. I've also struggled through Howard Gardner's *Frames of Mind* (New York: Basic Books, 1983) and Mihaly Csikszentmihalyi's *Beyond Boredom and Anxiety* (San Francisco: Jossey-Bass, 1975), both of which offered exciting ideas and extended my thinking, but which I'm glad friends had read first and synthesized for me. They're hard sledding.

Museum Education Anthology (Washington, D.C.: Museum Education Roundtable, 1984) is a landmark, as is the Smithsonian's *Report of the Proceedings of the Children in Museums International Symposium, 1979* (Washington, D.C.: Smithsonian Institution Office of Museum Programs, 1982). Bruno Bettelheim's speech in particular stays with me and says some eloquent things about the sense of wonder.

I am particularly interested in how spaces influence learning and was glad to find *The Environment of Play*, by John Mason (West Point, N.Y.: Leisure Press, 1982). Although it is primarily about school and day care spaces, it offers many wise words about the importance of environment. An issue of *Children's Environments Quarterly* is devoted to children's museums (vol. 4, no. 4, spring 1987), and *Hand to Hand*, the newsletter of the Association of Youth Museums, has been publishing since 1986.

Teaching Adults: An Active Learning Approach (Washington, D.C.: National Association for the Education of Young Children, 1986), by my friend and mentor Elizabeth Jones of Pacific Oaks College, is a gem. It's a how-to manual for teaching a child development class, but it's also a treasury of wisdom about teaching and learning and being.

Arminta Neal, Denver, Colorado

I must qualify my contribution by saying that when I retired as assistant director of the Denver Museum of Natural History in January 1982 I deliberately left professional involvement in the museum field behind me. My involvement now with museums is strictly as a visitor. So perhaps my views *can* contribute to an "audience advocate" approach. I will, however, list some of the publications I found useful while I was still in the field, for I think they provide continuing basic information.

Lest we think we are always coming up with new ideas, I think it is humbling to read:

"The Principles of Museum Administration," by George Brown Goode, published in a collection of his writings called *A Memorial of George Brown Goode* (Washington, D.C.: U.S. Government Printing Office, 1907).

Museum Ideals, by Benjamin Ives Gilman (Boston: Museum of Fine Arts, 1923).

I am almost always made aware of how exhibit designers continue to ignore the physical needs of visitors. Labels are often in type that is too small, with lines that are too long and too close together, making it hard for eyes to go from the end of one line to the beginning of the next, and placed too high or too low on a wall and flat on a horizontal surface instead of tilted at a right angle to the line of sight. Exhibit halls consistently are lacking in enough places to sit down or to rest a rump on a railing. I know lack of benches helps to speed traffic along, but is that what we're after? Exhibits should be places for contemplation.

I think my two books are still good references for designing with consideration of human anatomy: *Help! for the Small Museum* (2d ed., Boulder, Colo.: Pruett Press, 1987) and *Exhibits for the Small Museum* (Nashville, Tenn.: American Association for State and Local History, 1976). And *Anatomy for Interior Designers*, by Julius Panero (New York: Watson-Guptill, 1962) is fun to read as well as an excellent reference.

Principles of Visual Perception, by Carolyn M. Bloomer (New York: Van Nostrand Reinhold, 1976), is fascinating,

with explanations in layperson's terms of how we see and process visual information.

Art and Visual Perception, by Rudolf Arnheim (Berkeley: University of California Press, 1974), subtitled "A Psychology of the Creative Eye, the New Version," also deals with how we see and process visual information.

Environmental Psychology, by Paul Bell, Jeffrey Fisher, and Ross Loomis (Philadelphia: W. B. Saunders, 1978), provides insights that can be adapted to the museum situation.

Three books by cultural anthropologist Edward T. Hall provide an excellent background for factors tangential to museum exhibit design:

The Silent Language (Garden City, N.Y.: Doubleday, 1959) may help museum people understand the ethnocentrism we often bring, unconsciously, to our interpretations of other people's cultures.

The Hidden Dimension (Garden City, N.Y.: Doubleday, 1966) treats different cultures' concepts of space, including intimate, personal, social, and public distance.

The Dance of Life (Garden City, N.Y.: Anchor Press, 1983) explores different cultures' concepts of time.

A couple of books by Kenneth Hudson are fun and informative: *A Social History of Museums: What the Visitors Thought* (London: Macmillan, 1975) and *Museums for the 1980s: A Survey of World Trends* (New York: Holmes and Meier, 1977).

And finally, in terms of the "team approach" but on a much broader basis, Riane Eisler's *The Chalice and the Blade* (San Francisco: Harper and Row, 1987) discusses the possibility of "partnership" societies rather than "dominator" societies.

Books and Exhibits

Looking, But Not Seeing

Just Looking: Essays on Art, by John Updike. New York: Alfred A. Knopf, 1989. Pp. 200. \$35.

Reviewed by Bret Waller

John Updike knows what he likes, and it isn't nonrepresentational painting. As a 12-year-old first-time visitor to the Museum of Modern Art he was charmed by the "freedom and impudence" of Braque's *Woman with Mandolin*, but his tolerance has declined over the years: "Op was the last art movement I enjoyed, and Minimalism the last one I was aware of; I could not adjust to artworks that lay on the floor, bricks and tiles and coils of ropes that could be accidentally kicked."

It's not that Updike is outraged by abstraction; it just leaves him at a loss for words, an intolerable condition for a writer. Of the 23 essays in *Just Looking*, only one is devoted to a nonrepresentational work. Richard Diebenkorn's *Ocean Park No. 79* is dispatched in a three-paragraph essay called, "Some Rectangles of Blue." In the face of such a painting, Updike confesses, words quite literally fail him: "The written word, and the mode of thinking that words shape, still stand embarrassed before abstract art. What is it *about*? What is *happening*?" To show that he's not uninformed about modern painting, Updike drops a bundle of names—Newman, Mondrian, Malevich, Pollock, Kline, Rothko, and Motherwell. But "here in the presence of a

Diebenkorn, of Diebenkorn," he is baffled, frustrated. Like any novice viewer he turns to the painting's title for clues: "We greedily seize on the 'ocean' [in *Ocean Park No. 79*], linking it with the dominant blue. Yet the ocean (if that is what it is) seems to be in the foreground, and what might be a strip of sandy beach is at the top." After a few more stabs at finding representational equivalents for pictorial elements, Updike gives up. "Inarticulate but unembarrassed, we pass on, as if the canvas has said to us, 'Have a nice day.'"

Inarticulateness, as a rule, is not one of Updike's problems. Nor is he shy about drawing on personal experience. "Little Lightnings," a delightful, short poetic piece inspired by an 18th-century Japanese woodcut, begins, "The backyards of my boyhood in summer were full of fireflies, but now I see them rarely," and goes on for several hundred words of reminiscence before getting to the woodcut, which he wraps up economically in six lines. While this prolix occidental haiku is an extreme case, it is not atypical. Each of the essays in this collection is more or less autobiographical, usually telling the reader as much about John Updike as it does about its putative subject. Interesting and amusing as this often is, it makes the book's title, *Just Looking*, seem wildly inappropriate. "Just Talking" comes closer.

The relationship between looking and seeing is critical here. Updike's approach brings to mind a hypothetical example used by the philosopher George Dickie in arguing against the concept of "disinterested attention" as a prerequisite for esthetic experience. Two young men, Arthur and Zachary, are looking at a portrait of Zachary's father:

Zachary [unlike Arthur], instead of noting and appreciating the color harmony, spatial organization, or expressive features of the representation, is simply reminded of his father and falls to musing or recounting tales about his father to Arthur. Zachary's behavior and state of mind would be characterized by aesthetic-attention theorists as an example of attending transitively to the painting by using the work of art as a vehicle for associations. That is, as a case of attending with external factors in mind. But in this case Zachary is not attending to the painting at all, although he may be facing it with his eyes open. He is now attending to his musing or to the story he

is telling although he looked at the painting first and noticed it was a portrait of his father.

From George Dickie, *Art and the Aesthetic* (Ithaca, N.Y.: Cornell University Press, 1974), pp. 116–17.

This is Updike's characteristic critical stance as well. Having noticed the subject of a work and dutifully recited a few biographical facts about the artist, he launches into a world of personal association, not infrequently colored by erotic fantasies. Here is Updike on *La Japonaise*, Monet's early portrait of his wife Camille in a kimono:

This flirtatious, slightly glazed face floats with sweet obliviousness above the turmoil of her garment. . . . The sense of two creatures twisted together, amid the folds of thick cloth, affords the viewer intimations both sexual and demonic. The woman appears to be a trap in which the samurai is caught, or else a lure, with him poised to kill the prey who ventures near.

And on Modigliani's *Le Grand Nu*:

But few nudes . . . expose their tender white fronts to us so trustingly, or so dramatically illustrate Karl Barth's dictum that woman "is in her whole existence an appeal to the kindness of man." . . .

Women *do* feel to us this long and gently undulant in the waist, and are this grand in self-forgetfulness.

The most interesting essay in this collection, as well as the longest, is devoted to the *New Yorker* cartoonist of the 1920s, Ralph Barton. Of all the artists Updike discusses, Barton is the one for whom he seems to feel real affection. It is tempting to explain this in terms of parallels between their lives and work. Both grew up in the provinces—Barton in Kansas City, Missouri, Updike in small-town Pennsylvania—and achieved success in the fashionable world of New York arts and letters. Barton aspired to write (his 1929 satirical history of the United States, *God's Country*, was panned by the critics), while Updike is a sometime cartoonist: "I rarely have cause in my adult life to open the India-ink bottle, [but] when I do, and take the feather-light nib and holder again in hand, and begin to trace wet marks over my pencil sketch on the pristine Bristol board, the old excitement returns."

Barton's work, appearing as it did in the pages of magazines and books, embedded in a matrix of words, had

Bret Waller is associate director for education and public affairs, J. Paul Getty Museum, Malibu, California.

in abundance those qualities Updike most admires: sophistication, wit shading into black humor, a keen eye for social nuance and the telling detail, a degree of abstraction bespeaking familiarity with cubism and other advanced art styles of the day, a touch of eroticism, a focus on the human predicament (no cartoonist has ever specialized in landscape), and, of course, literary, or at least literal, meaning. But the real explanation for Updike's admiration of Barton's work is to be found in the close connection—almost an identification—that exists, for Updike, between drawing and writing.

"The itch to make dark marks on white paper," Updike tells us, "is shared by writers and artists." In the book's last essay he spells out the connection:

Alphabets begin in pictographs, and, though words are spoken things, to write and read we must see. The line between picture and symbol is a fine one. In the days of mass illiteracy, imagery—hung on cathedral walls, scattered in woodcuts—was the chief non-oral narrative means. Most paintings "tell a story," and even departures from representation carry a literary residue; e.g., the labels and bits of newspaper worked into Cubist collages, and the effect of monumental calligraphy in the canvases of Pollock and Kline. The art of the comic strip exists as if to show how small the bridge need be between the two forms of showing, or telling.

The need to have paintings "tell a story" (understandable in so gifted a storyteller as Updike), a need so urgent that it compels him to read almost literally Pollock's dribbled skeins of paint and Kline's bold slashes as "calligraphy," is finally the novelist's undoing as a critic. Like an anxious docent, he keeps looking for the story line, and where the work itself does not readily yield one, he either supplies it from his own vivid imagination or loses interest.

While *Just Looking* is pretty insubstantial as art criticism, or even as high-class art journalism, it is quite instructive to anyone interested in how people relate to works of art. Most revealing where it least intends to be, Updike's art writing shows us an educated, sophisticated, indeed inveterate museum goer for whom the world of visual relationships remains *terra incognita*. Art museum professionals, especially curators,

when confronted with research findings showing the vast majority of museum visitors to be puzzled and offended by modern art, tend to assume that the idiot researchers somehow managed to round up and interview an atypical mob of boobs, hayseeds, and rednecks. Updike, however, provides incontrovertible evidence that education, intelligence, sophistication, and verbal skill of a high order are not enough. For "just [merely] looking" to become "just [fair and judicious] looking," something more has to happen.

A critic must lose himself in a work, let go, plunge beneath the surface and explore the depths before he can emerge with insights that will be of help to others. Updike never does this, preferring to paddle brilliantly on the surface. Here is challenge indeed for museums and museum educators. How do we help the paddlers who pour through our galleries become divers, able to immerse themselves in a work of art and emerge with their own valid insights?

"He who has eyes to see, let him see." The visual image Updike's essays bring vividly to mind is Jasper Johns's lead relief, *The Critic Sees*, in which the eyepieces of a pair of thick-rimmed glasses frame twin mouths, open and talking.

MER Celebrates 20 Years

Celebrations are significant occasions. They commemorate events and mark the passage of time, allow us to reflect and to congratulate. On September 16, 1989, about 100 friends of the Museum Education Roundtable gathered in Washington, D.C., to celebrate MER's 20th anniversary.

In the morning, at the Smithsonian Institution's S. Dillon Ripley Center, concurrent roundtables considered outreach programs, museum learning, the role of the educator in exhibition design and evaluation, and MER and its future. The discussions reinforced persistent challenges and prompted topics for another 20 years of MER meetings and issues of the *Journal of Museum Education*.

Harry Jackson of the National Portrait Gallery moderated the outreach roundtable, which made these recommendations:

- Be mindful of changes in demographics and cultural diversity to keep programs relevant, and be ready to build bridges between the museum and its different audiences.
- Encourage people with diverse cultural backgrounds to enter the museum education field.
- Remember the need to reach middle school, high school, and adult audiences.
- Make connections with non-profit and social organizations.
- Spend time marketing outreach programs and developing other programs that are responsive to audience needs.
- Consider the pros and cons of charging fees for services.

The roundtable that considered museum learning was moderated by Mary Ellen Munley of the New York State Museum and drafted these concerns:

- Develop a common language about learning, especially informal learning, with volunteers, curators, exhibition designers, and other museum practitioners.
- Devote more study to learning in informal settings.
- Study visitor motivation.
- Become better data collectors.
- Determine what makes a positive learning experience.
- Keep up with the literature and share your findings with colleagues.

The participants in the roundtable considering exhibition design had widely varied experiences with the topic. Laura McKie of the National Museum of Natural History moderated the session:

- Regarding the educator's role in exhibition design, recognize that museum educators' experiences vary dramatically. Some are part of a team; others are excluded from all aspects of the exhibition planning process.
- Establish the role of the educator on the team, clarify the learning outcomes, act as audience advocate, serve as team mediator, and advocate the need for a variety of types of evaluation.
- Avoid apologizing for the roles of the museum educator.
- Press for increased opportunities for the educator to serve on exhibition design teams.

The evaluation roundtable, moderated by Lynn Dierking of the University of Maryland, made these points:

- Recognize the range and variety of options in evaluation.
- Consider the value of evaluation findings from controlled settings for actual settings.
- Determine if the underlying assumptions of current evaluation are those that you seek or share.
- Understand that your perception of visitors' actions can be a helpful type of evaluation.
- Attempt to make evaluation a museum-wide practice, not limited to the education department.
- Pursue evaluation issues and processes, as well as presentation of models, in the *Journal of Museum Education* and at MER meetings.

The future of the Museum Education Roundtable was the topic of the fifth discussion group, moderated by MER board chair Judy Landau of George Washington University, and yielded the observation that MER's base in Washington, D.C., is a plus for two reasons:

- Many colleagues from elsewhere visit Washington and can be tapped for programs and face-to-face consultations.
- Museum ties with the federal government provide tangible benefits, like free meeting space, and eliminate some competition for grants.

In the evening at the Washington National Cathedral, Kenneth Starr, former director of the Milwaukee Public Museum and past president of the American Association of Museums and now program director for Informal Science Education at the National Science Foundation, made eloquent observations about museum education (see page 18). He punctuated his presentation with a graceful interpretation of a bird in flight as experienced in a museum's participatory exhibition.

The evening concluded with cake, champagne, raffle ticket purchases, and jocular bidding for publications, services, tours, accommodations, and food. Typical of MER's 20 years, the successful 20th anniversary celebration was the result of a generous, combined effort. The tangible result is the addition of nearly \$2,800 to MER's coffers.

Commemorative buttons marking MER's first two decades are available. Write to MER Buttons, P.O. Box 506, Beltsville, Md. 20705.

Susan Nichols
Editor-in-Chief

Meeting Highlights

At the Museum Education Roundtable's monthly meeting on January 10, 1990, Joel Bloom, president of the American Association of Museums, outlined the challenges that face the Task Force on Museum Education as it attempts to identify issues in museum education and recommend actions the AAM could take to increase the role of education in museums. Bloom, who is president and director of the Franklin Institute Science Museum and Planetarium in Philadelphia, explained

that over the past two decades the "Women's Mafia" of museum educators has fought to change the trend that allows collecting to take precedence over education. Indeed, Bloom said, there exists a strong societal need for museums to increase their educational role and to address cultural pluralism, both within each museum and in what museums say to the outside world.

Bloom stated that the task force is "venturing into murky waters" as it attempts to resolve the hot issues that have accumulated over the past 20 years. These include familiar questions: What is education and how does it fit into the museum? Who are museums educating—those who visit or those who don't? What is the ideal museum-school relationship? How can museums accommodate the increasing numbers of adult learners? How can museums best serve an extremely diverse audience? Since every exhibition is an interpretation, whose story should be told? How should museums take a stand on controversial issues? Who will make these decisions?

Since the task force meeting was still in session when Bloom spoke to MER, he had few answers to report. But the diversity of thoughts and values within the group make it obvious that no decision will have universal agreement. (For a description of the task force's mandate and a list of members, see the *Journal of Museum Education*, Fall 1989, p. 21.)

Katherine Johnson

Graduate Student, Museum Education
George Washington University
Washington, D.C.

1990 Programs

Monday, March 5

10:00 a.m.–5:00 p.m., The Lyceum,
Old Town Alexandria

Learning Styles and Cultural Diversity

A daylong workshop on learning styles and their relation to exhibition development and programming for culturally diverse audiences.

Cosponsored by the Virginia Association of Museums. For information, call Myriam Springuel, (202) 357-3371, or Lynn Dierking, (301) 268-5149.

Tuesday, April 3

Evening session, location to be announced

Clinic: Museum Educators at Mid-Career

Suggested for museum professionals who feel they are at mid-career. Call Annie Storr, (301) 589-6058, or A. T. Stephens, (703) 437-7694, with your suggestions as they plan this clinic.

Tuesday, May 22

2:00–3:30 p.m., National Museum of Natural History, Classrooms B and C
What Skills Does the Museum Educator Need to Successfully Participate in Exhibition Development?

A roundtable discussion. Moderator: Laura McKie, Acting Assistant Director for Education, National Museum of Natural History. Comments: Nancy McCoy, Janet Pawlukiewicz, and Laurie May Tripett. For information, call Julia Forbes, (202) 537-2930.

Wednesday–Saturday, July 25–28
Washington, D.C.

1990 Visitor Studies Conference

Look for a session cosponsored by MER on visitor studies and museum education.

Wednesday–Sunday, September 5–9
Washington, D.C.

1990 Annual Meeting, American Association for State and Local History

Look for a session cosponsored by MER on history and museum education.

You are encouraged to bring guests. Programs are free to MER members. A \$3 contribution is suggested for nonmembers. For further information, call Myriam Springuel, (202) 357-3371.

Noteworthy

Winter Reading

The latest contribution to museum education literature comes from the National Art Education Association, *Museum Education: History, Theory, and Practice*. Ten chapters, each written by an expert in the field, cover the history and philosophy of art museum education; strategic planning for art museum educators; a model for teaching in art museums; educating the art museum educator; docents; participatory teaching methods; teaching criticism in art museums; the art museum's role as a teaching resource; the use of video, computers, and other technology; and evaluation.

Museum Education: History, Theory, and Practice was edited by Nancy Berry of the Dallas Museum of Art and Susan Mayer of the Archer M. Huntington Art Gallery, University of Texas at Austin. To order a copy, send \$19 (\$14 for NAEA members) to NAEA, 1916 Association Drive, Reston, Va. 22091.

If the spring/summer 1989 issue of the *Journal of Museum Education* inspired you to give greater thought to family audiences, there's more: *Museum Visits and Activities for Family Life Enrichment* explores the many facets of the relationship between museums and families.

Ten chapters by museum professionals and social scientists examine the museum's importance to the family as a place of socialization and learning. How families learn, what to consider when developing programs for families, and why families choose

(and choose not) to spend their leisure time in museums are among the topics.

Museum Visits and Activities for Family Life Enrichment was edited by Barbara Butler of the Delaware Museum of Natural History and Marvin B. Sussman of the University of Delaware. To order, send \$29.95 (plus \$2.50 for postage and handling) to Haworth Press, Inc., 10 Alice St., Binghamton, N.Y. 13904. To place a credit card order, call (800) 342-9678.

From the University of Leicester's Department of Museum Studies comes the British perspective: *Initiatives in Museum Education*. This wide-ranging anthology is packed with brief articles on education in art, history, and science museums; marketing; museums as teacher-training resources; information technology; management; and evaluation.

Edited by Eilean Hooper-Greenhill, the publication is distributed by Leicester University Bookshop, Medical Sciences Building, University Road, Leicester LE1 7RD, England.

Another British perspective—on cultural pluralism—can be found in a report by Her Majesty's Inspectors of Schools, "A Survey of the Use Schools Make of Museums for Learning about Ethnic and Cultural Diversity." To obtain a copy, write to the Department of Education and Science, Publications Despatch Centre, Honey Pot Lane, Stanmore, Middlesex HA7 1AZ, England.

Cultural Pluralism, Interpretation Workshops in NYC

Two spring workshops sponsored by the New York State Council on the Arts will stimulate museum educators to meet the challenges of the new decade. "Cultural Pluralism for Museums: Opportunities and Solutions" (April 5-6, 1990) explores issues inherent in representing and reaching a diverse array of cultures through collecting, exhibition, and interpretation. "Rethinking Interpretive Tools: Use of the Printed Word in Museum Galleries" (April 30-May 1, 1990)

features lectures, discussions, and problem-solving exercises on communicating through labels, brochures, handouts, and signage.

Both workshops will have cross-disciplinary faculties from museums and allied fields. Sessions will be held at the Metropolitan Museum of Art, New York City. The fee for New York state participants is \$100, for out-of-state participants, \$150. For further information and a registration form, write to Metropolitan Museum of Art, Museum Workshop Program, Office of Public Programs, Fifth Avenue at 82d St., New York, N.Y. 10028.

For Teachers and Students

Hot off the press at the Yarmouth (Maine) Historical Society is a 34-page teaching booklet, "Writing Ballads from Local Historical Legends." The product of a collaborative project involving the historical society and the Yarmouth School Department, the booklet describes the process of teaching ballad writing using local history, storytelling, and poetry writing. It also points teachers to historical societies as curriculum resources.

To order a copy, send \$4 to the Yarmouth Historical Society, P.O. Box 107, Yarmouth, Maine 04096. To find out more about the project or the hands-on workshops the historical society is offering interested teachers, write to Betsy Warner, program coordinator, at the same address, or call her at (207) 842-6259.

Endangered historic properties are featured in the National Park Service's *Landmarks at Risk* bulletins, designed to involve elementary and high school students in protecting properties and historic districts that have "exceptional value in American history." Each bulletin describes the historic property's significance and suggests how to become involved in protecting it, either regionally or nationally. Free copies of six bulletins are available: the Chester A. Arthur House, New York City; Ashland, Kentucky; Telluride Historic District, Colorado; Chapel of St. Nicholas, Alaska; Old Washoe Club, Nevada; and Villa Lewaro, New York.

Write to Kay D. Weeks, Technical Preservation Services, Preservation

Assistance Division, U.S. Department of the Interior, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127; or call (202) 343-9593.

NEH Deadlines

The National Endowment for the Humanities is encouraging museums to submit proposals that **integrate their collections into projects involving elementary and secondary school teachers in the humanities**. Recent grantees have included Old Sturbridge Village, which held a three-week summer institute for elementary school teachers on American history from 1790 to 1840, and the Indianapolis Museum of Art, which sponsored a collaborative project on Chinese art for teachers and school administrators.

The next deadline for national or regional projects is March 15 (for projects beginning in October 1990). The deadline for state or local projects is May 15 (for projects beginning in January 1991). To obtain guidelines or to discuss preliminary plans for a proposal, call program officer Michael L. Lanza in the NEH Division of Education Programs, (202) 786-0377.

Museums and Their Communities

"Building Partnerships: Museums and Their Communities"

is the title of a training congress sponsored by the Smithsonian Institution Office of Museum Programs, June 26-29, in Washington, D.C. This intensive program explores the challenges museums face as they work to play a more active role in their communities. Participants in the congress will choose from one of six practical workshops on issues ranging from collecting policies to board education. Plenary lectures and discussions will situate these practical concerns in a theoretical context. Enrollment is limited. For more information, write Training Congress, Office of Museum Programs, Smithsonian Institution, Arts and Industries Building, Room 2235, Washington, D.C. 20560.

AAM Annual Meeting Highlights

The preliminary program for the American Association of Museums' 85th Annual Meeting, to be held May 9–13 in Chicago, is chock-full of sessions that will appeal to museum educators. The meeting theme is "Congress of Ideas." Some highlights:

Thursday, May 10

Beyond Gardner and McCarthy:

From Theory to Models*

Evaluators and Educators: The Ties That Bind, The Issues That Divorce*

New History with the Same Old Stuff: Reinterpretation of Collections*

Documentary Video Made Easy

Toward the Ethics of Presentation

Presenting "The Other": The Role of Culturally Specific Museums

Poster Session: Current Trends in Audience Research and Evaluation

Media and Communications

Marketplace

Education Marketplace*

Friday, May 11

Metamorphosis of the Youth Volunteer Program: Bug or Butterfly?

Determining What They Know and Writing for Their Needs

Urban Wildlife: A Statewide Effort*

Interactive Exhibits for Disabled Visitors

Weekend Volunteers: An Important Museum Asset

The Concept of Fairness in Exhibition and Interpretation: Viable or Not?*

The Human Mind: Memory, Learning, and Creation

Putting Research and Evaluation to Use

Museums and Social Responsibility*

Museums and the Community:

Stability in a Changing Society
Benefiting from Museum Travel Programs*

Looking Ahead: Integrating Evaluation into Public Programming

Saturday, May 12

Museums as Change Agents through Community Partnerships*

Interdisciplinary Alliance in the Arts: A Case Study

Critiquing Museum Exhibitions:

Who Determines What's Good

Approaches for Using Evaluation in Exhibit Development

Multidisciplinary Arts Programming for Children on the Art of Diverse Cultures

Current Issues in Teacher Education*

Adolescents as Volunteers: A Totally Awesome Group of Dudes Is Coming to the Museum

Authentic Representation: The Problem of Transmitting Cultural Messages

Where Exhibit and Audience Meet: Social and Design Factors

Response to the Need for Scientific Literacy: Are We Ready?*

Partnerships: Programs with Profits and Panache

Exhibit Connections: Partnerships in Planning Exhibits on Sensitive Subjects

Exhibitions and Environmental Issues in Art and Natural History Museums

Mission-Driven Museums in a Consumer-Driven Marketplace

Sunday, May 13

Museums as Agents of Innovation for Schools*

Tropical Rainforests*

Visitor Studies and Evaluation: An International Perspective

Longitudinal Evaluation of Museum Education Programs

Museums in a Multicultural, Pluralistic Society

Strategies for Cultural Diversity*

*Programs sponsored or cosponsored by the AAM Education Committee.

For registration information, contact AAM, 1225 Eye St., N.W., Suite 200, Washington, D.C. 20005; (202) 289-1818.

Professional Education Opportunities

From the National Trust for Historic Preservation comes the useful annual guide to **undergraduate and graduate degree programs in historic preservation**, published as a supplement to the October 1989 *Preservation News*. Results of a survey of preservation- and restoration-oriented training programs in building crafts and trades are also included. A limited number of single copies are available from the National Trust for Historic Preservation, 1785 Massachusetts Ave., N.W., Washington, D.C. 20036; (202) 673-4075.

Save Outdoor Sculpture!

Outdoor sculpture, the most accessible form of history and visual art, is the most endangered of our cultural resources. *Save Outdoor Sculpture!* is a nationwide inventory to determine the number, location, and condition of all outdoor sculptures in the United States. SOS! is a joint project of the Smithsonian's National Museum of American Art and the National Institute for the Conservation of Cultural Property (NIC). To add your name to the SOS! mailing list, contact Susan Nichols, NIC, 3299 K St., N.W., Suite 403, Washington, D.C. 20007.

Coming in the *Journal of Museum Education*

- Theater in Museums
- The Museum's Responsibilities to Its Publics
- AAM Education Task Force
- International Zoo Education
- Quincentenary Programs

For more information or to suggest articles or themes, write to the Editor-in-Chief, *Journal of Museum Education*, P. O. Box 506, Beltsville, Md. 20705.

About the Museum Education Roundtable

The **Museum Education Roundtable**, a nonprofit educational corporation, serves as a forum for communication among professionals in the field. MER seeks to improve educational services in museums and related institutions, to foster communication between museums and their audiences, and to promote professional development

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- Voting privileges
- Discounts on MER publications, such as *Museum Education Anthology* (write to MER for more information)
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